achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this paragraph, which may be discharged from the manufacture of essential oils by a point source subject to the provisions of this paragraph after application of the best practicable control technology currently available:

[Metric units, kg/kkg of product; English units, lb/1,000 lb of

	Effluent limitations		
Effluent characteristic	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not ex- ceed—	
BOD ₅ pH	22.7 9.01 (¹)	12.0 3.11 (¹)	

¹ Within the range 6.0 to 9.0.

[41 FR 20511, May 18, 1976, as amended at 60 FR 33971, June 29, 1995]

Subpart F—Rosin-Based Derivatives Subcategory

§ 454.60 Applicability; description of manufacture of rosin-based derivatives subcategory.

The provisions of this subpart are applicable to discharges resulting from the manufacture of rosin-based derivatives.

§ 454.61 Specialized definitions.

For the purpose of this subpart:

- (a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR part 401 shall apply to this subpart.
- (b) The term "product" shall mean rosin-based derivatives.

§ 454.62 Effluent limitations and guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in §§125.30 through 125.32, any existing point source subject to this subpart shall achieve the following effluent limita-

tions representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this paragraph, which may be discharged from the manufacture of rosin-based derivatives by a point source subject to the provisions of this paragraph after application of the best practicable control technology currently available:

[Metric units, kg/kkg of product; English units, lb/1,000 lb of product]

	Effluer	nt limitations
Effluent characteristic	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not ex- ceed—
BOD ₅	1.41	0.748
TSS	0.045	0.015
pH	(1)	(1)

¹ Within the range 6.0 to 9.0.

[41 FR 20511, May 18, 1976, as amended at 60 FR 33971, June 29, 1995]

PART 455—PESTICIDE CHEMICALS

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AUTHORITY: Secs. 301, 304, 306, 307, and 501, Pub. L. 92–500, 86 Stat. 816, Pub. L. 95–217, 91 Stat. 156, and Pub. L. 100–4 (33 U.S.C. 1311, 1314, 1316, 1317, and 1361).

Source: 43 FR 17776, Apr. 25, 1978, unless otherwise noted.

§ 455.10 General definitions.

As used in this part:

- (a)(1) Pesticide means any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest.
- (b) Active ingredient means an ingredient of a pesticide which is intended to prevent, destroy, repel, or mitigate any pest.
- (c) Pesticide chemicals means the sum of all active ingredients manufactured at each facility covered by this part.
- (d) Pest means: (1) Any insect, rodent, nematode, fungus, weed, or (2) any other form of terrestrial or aquatic plant or animal life or virus, bacteria, or other micro-organism (except virusus, bacteria, or other micro-organisms on or in living man or other living animals) which the Administrator declares to be a pest under section 25(c)(1) of Pub. L. 94–140, Federal Insecticide, Fungicide and Rodenticide Act.
- (e) Except as provided in this regulation, the general definitions, abbreviations and methods of analysis set forth in part 401 of this chapter shall apply to this part.
- (f) Priority Pollutants means the toxic pollutants listed in 40 CFR part 423, appendix A.
- (g) Appropriate pollution control technology means the wastewater treatment technology listed in Table 10 to this part 455 for a particular PAI(s) including an emulsion breaking step prior to the listed technology when emulsions are present in the wastewater to be treated.
- (h) Equivalent system means a waste-water treatment system that is demonstrated in literature, treatability tests or self-monitoring data to remove a similar level of pesticide active ingredient (PAI) or priority pollutants as the applicable appropriate pollution control technology listed in Table 10 to this part 455.
- (i) Formulation of pesticide products means the process of mixing, blending or diluting one or more pesticide active

- ingredients (PAIs) with one or more active or inert ingredients, without an intended chemical reaction to obtain a manufacturing use product or an end use product.
- (j) Group 1 mixtures means any product whose only pesticidal active ingredient(s) is: a common food/food constituent or non-toxic household item; or is a substance that is generally recognized as safe (GRAS) by the Food and Drug Administration (21 CFR 170.30, 182, 184, and 186) in accordance with good manufacturing practices, as defined by 21 CFR part 182; or is exempt from FIFRA under 40 CFR 152.25.
- (\bar{k}) Group 2 mixtures means those chemicals listed in Table 9 to this part 455.
- (1) Inorganic wastewater treatment chemicals means inorganic chemicals that are commonly used in wastewater treatment systems to aid in the removal of pollutants through physical/chemical technologies such as chemical precipitation, flocculation, neutralization, chemical oxidation, hydrolysis and/or adsorption.
- (m) Interior wastewater sources means wastewater that is generated from cleaning or rinsing the interior of pesticide formulating, packaging or repackaging equipment; or from rinsing the interior of raw material drums, shipping containers or bulk storage tanks; or cooling water that comes in direct contact with pesticide active ingredients (PAIs) during the formulating, packaging or repackaging proc-
- (n) *Microorganisms* means registered pesticide active ingredients that are biological control agents listed in 40 CFR 152.20(a)(3) including Eucaryotes (protozoa, algae, fungi), Procaryotes (bacteria), and Viruses.
- (o) *Packaging* of pesticide products means enclosing or placing a formulated pesticide product into a marketable container.
- (p) PFPR/Manufacturer means a pesticide formulating, packaging and repackaging facility that also performs pesticide manufacturing on-site and commingles their PFPR process wastewaters and pesticide manufacturing process wastewaters.
- (q) Pool chemicals means pesticide products that are intended to disinfect

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or sanitize, reducing or mitigating growth or development of microbiological organisms including bacteria, algae, fungi or viruses in the water of swimming pools, hot tubs, spas or other such areas, in the household and/or institutional environment, as provided in the directions for use on the product label.

- (r) Refilling establishment means an establishment where the activity of repackaging pesticide product into refillable containers occurs.
- (s) Repackaging of pesticide products means the transfer of a pesticide formulation (or PAI) from one container to another without a change in composition of the formulation or the labeling content, for sale or distribution.
- (t) Sanitizer products means pesticide products that are intended to disinfect or sanitize, reducing or mitigating growth or development of microbiological organisms including bacteria, fungi or viruses on inanimate surfaces in the household, institutional, and/or commercial environment and whose labeled directions for use result in the product being discharged to Publicly Owned Treatment Works (POTWs). This definition shall also include sanitizer solutions as defined by 21 CFR 178.1010 and pool chemicals as defined in this section (455.10(q)). This definition does not include liquid chemical sterilants (including sporicidals) exempted by §455.40(f) or otherwise, industrial preservatives, and water treatment microbiocides other than pool chemicals.
- (u) Stand-alone PFPR facility means a PFPR facility where either: No pesticide manufacturing occurs; or where pesticide manufacturing process wastewaters are not commingled with PFPR process wastewaters. Such facilities may formulate, package or repackage or manufacture other non-pesticide chemical products and be considered a "stand-alone" PFPR facility.

[43 FR 17776, Apr. 25, 1978, as amended at 50 FR 40701, Oct. 4, 1985; 51 FR 44911, Dec. 15, 1986; 58 FR 50689, Sept. 28, 1993; 61 FR 57548, Nov. 6, 1996]

Subpart A—Organic Pesticide Chemicals Manufacturing Subcategory

SOURCE: 43 FR 44846, Sept. 29, 1978, unless otherwise noted.

§ 455.11 Compliance date for pretreatment standards for existing sources (PSES).

All discharges subject to pretreatment standards for existing sources (PSES) in subparts A and B of this part must comply with the standards no later than September 28, 1993.

[61 FR 57549, Nov. 6, 1996]

§ 455.20 Applicability; description of the organic pesticide chemicals manufacturing subcategory.

(a) For the purpose of calculating and applying effluent limitations for COD, BOD₅, and TSS, and applying pH limits under BPT (§455.22), BCT (§455.23), and NSPS (§455.25), the provisions of this subpart are applicable to discharges resulting from the manufacture of organic pesticide active ingredients and organo-tin pesticide active ingredients, excluding the following: Allethrin; Benzyl Benzoate; Bisethylxanthogen; Chlorophacinone; Coumafuryl; Dimethyl Phthalate; Diphacinone; Acid; EXD (Herbisan); Endothall Gibberellic Acid; Glyphosate; Naphthalene Acetic Acid; Propargite; 1,8 Anhydride: Naphthalic Quinmethionate; Rotenone; Sulfoxide; Triazine compounds (both symmetrical and asymmetrical); and Warfarin and similar anticoagulants. Provided, however, that the effluent limitations of this subpart for BOD₅ and TSS, but not COD, apply to manufacturers of Prometon, Ametryn, Prometryn. Terbutryn, Cvanazine. Atrazine. Propazine, Simazine, Terbuthylazine, Hexazinone, and Glyphosate.

(b) For the purpose of calculating BPT effluent limitations for organic Pesticide chemicals, the provisions of this subpart are applicable to discharges resulting from the manufacture of the following organic active ingredients: Aldrin, BHC, Captan, Chlordane, DDD, DDE, DDT, Dichloran, Dieldrin, Endosulfan, Endrin, Heptachlor, Lindane, Methoxychlor, Mirex,

PCNB. Toxaphene, Trifluralin. Azinphos Methyl. Demeton-O. Demeton-S, Diazinon, Disulfoton, Malathion, Parathion Methyl, Parathion Ethyl, Aminocarb. Carbaryl. Methiocarb, Mexacarbate, Propoxur, Barban, Chlorpropham, Diuron, Fenuron-TCA, Fenuron. Linuron, Monuron-TCA, Monuron, Neubron. Dicamba Propham. Swep. 2.4-D. Silvex, 2,4,5-T, Siduron, Perthane, and Dicofol.

(c) The intermediates used to manufacture the active ingredients and active ingredients used solely in experimental pesticides are excluded from coverage in this subpart. Insecticidal pathogenic organisms such as Bacillus thuringiensis, insect growth hormones, plant extracts such as pyrethrins; sex attractants and botanicals such as Rotenone are also excluded from BPT coverage in this subpart.

(d) A plant that manufactures a pesticide active ingredient listed in Table 1 of this part must comply with the BAT effluent limitations and new source performance and pretreatment standards for that pesticide active ingredient listed in table 2 (BAT and PSES) or Table 3 of this part (NSPS and PSNS). A plant that manufactures a pesticide active ingredient listed in Table 1 of this part must also comply with the BAT effluent limitations and source performance pretreatment standards for priority pollutants listed in Tables 4, 5 and 6 of this part. The limitations in Table 4 of this part (BAT and NSPS) are applicable to existing and new direct discharge point sources that use End-of-Pipe biological treatment. The limitations in Table 5 of this part (BAT and NSPS) are applicable to existing and new direct discharge point sources that do not use end-of-pipe biological treatment. The limitations in Table 6 of this part (PSES and PSNS) are applicable to existing and new sources that discharge to Publicly Owned Treatment Works.

(e) In the case of lead and total cyanide, the discharge quantity (mass) shall be determined by multiplying the concentrations listed in the applicable tables in this subpart times the flow from non-complexed lead-bearing waste streams for lead and times the flow

from non-complexed cyanide-bearing waste streams for total cyanide. Discharges of cyanide in cyanide-bearing waste streams are not subject to the cvanide limitation and standards of this subpart if the permit writer or control authority determines that the cyanide limitations and standards are not achievable due to elevated levels of non-amenable cyanide (i.e., cyanide that is not oxidized by chlorine treatment) that result from the unavoidable complexing of cyanide at the process source of the cyanide-bearing waste stream and establishes an alternative total cyanide or amenable cyanide limitation that reflects the best available technology economically achievable. The determination must be based upon a review of relevant engineering, production, and sampling and analysis information, including measurements of both total and amenable cyanide in the waste stream. An analysis of the extent of complexing in the waste stream, based on the foregoing information, and its impact on cyanide treatability shall be set forth in writing and, for direct dischargers, be contained in the fact sheet required by 40 CFR 124.8.

[43 FR 44846, Sept. 29, 1978, as amended at 50 FR 40702, Oct. 4, 1985; 51 FR 44911, Dec. 15, 1986; 58 FR 50689, Sept. 28, 1993]

$\S 455.21$ Specialized definitions.

- (a) Organic active ingredients means carbon-containing active ingredients used in pesticides, excluding metalloorganic active ingredients.
- (b) Total organic active ingredients means the sum of all organic active ingredients covered by §455.20(a) which are manufactured at a facility subject to this subpart.
- (c) Organic pesticide chemicals means the sum of all organic active ingredients listed in §455.20(b) which are manufactured at a facility subject to this subpart.
- (d) Process wastewater flow means the sum of the average daily flows from the following wastewater streams: Process stream and product washes, equipment and floor washes, water used as solvent for raw materials, water used as reaction medium, spent acids, spent bases, contact cooling water, water of reaction, air pollution control blowdown,

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steam jet blowdown, vacuum pump water, pump seal water, safety equipment cleaning water, shipping container cleanout, safety shower water. contaminated storm water, and product/process laboratory quality control wastewater. Notwithstanding other regulation, process wastewater flow for the purposes of this subpart does not include wastewaters from the production of intermediate chemicals.

Process wastewater pollutants means those pollutants present in process wastewater flow.

[43 FR 44846 Sept. 29, 1978, as amended at 58 FR 50689, Sept. 28, 1993]

§ 455.22 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in through 125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT). The following limitations establish the quantity or quality of pollutants or pollutant properties controlled by this paragraph which may be discharged from the manufacture of organic active ingredient:

	Effluent limitations			
Effluent characteristics	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not ex- ceed—		
COD	13.000	9.0000		
BOD ₅	7.400	1.6000		
TSS	6.100	1.8000		
Organic pesticide chemicals	.010	.0018		
pH	(1)	(1)		

¹ Within the range of 6.0 to 9.0.

NOTE: For COD, BOD₅, and TSS, metric units: Kilogram/ 1,000 kg of total organic active ingredients. English units: Pound/1,000 lb of total organic active ingredients. For organic pesticide chemicals—metric units: Kilogram/1,000 kg of or-ganic pesticide chemicals. English units: Pound/1,000 lb of organic pesticide chemicals

[43 FR 44846, Sept. 29, 1978, as amended at 60 FR 33971, June 29, 1995]

§ 455.23 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT)

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology: The limitations for BOD, TSS and pH are the same as those specified in 40 CFR 455.22.

BCT EFFLUENT LIMITATIONS Effluent Limitations

Pollutant or pollutant property	Max- imum for any one day**	Average of daily values shall not exceed**
BOD ₅	7.400 6.100	1.6000 1.8000
pH	*	*

^{*}Within the range 6.0 to 9.0

[58 FR 50689, Sept. 28, 1993]

§ 455.24 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available control technology economically achievable (BAT).

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology as specified in 40 CFR 455.20(d). For the priority pollutants, such sources must achieve discharges not exceeding the quantity (mass) determined multipying the process wastewater flow subject to this subpart as defined in 40 CFR 455.21 (d) times the concentrations listed in table 4 or table 5 of this part, as appropriate, of this subpart.

[58 FR 50690, Sept. 28, 1993]

^{**} Metric units: Kilogram pollutant/1,000 kg of total organic active ingredients.

English units: Pound pollutant/1,000 lb of total organic ac-

§ 455.25 New source performance standards (NSPS).

(a) Any new source subject to this subpart which discharges process wastewater pollutants must achieve the new source performance standards specified in 40 CFR 455.20(d), and subject to 455.20(a), must meet the following standards for BOD_5 , TSS, COD and pH:

NEW SOURCE PERFORMANCE STANDARDS
Standards

Pollutant or pollutant property	Max- imum for any one day**	Average of daily values shall not exceed**
COD	9.360 5.328 4.392	6.480 1.1520 1.2960

*Within the range 6.0 to 9.0 **Metric units: Kilogram pollutant /1,000 kg of total organic

**Metric units: Kilogram pollutant /1,000 kg of total organic active ingredients.
English units: Pound pollutant/1,000 lb of total organic active ingredients

(b) For the priority pollutants, such sources must achieve discharges not exceeding the quantity (mass) determined by multiplying the process wastewater flow subject to this subpart as defined in 40 CFR 455.21(d) times the concentrations listed in table 4 or table 5 of this part, as appropriate, of this

[58 FR 50690, Sept. 28, 1993]

subpart.

§ 455.26 Pretreatment standards for existing sources (PSES).

Except as provided in 40 CFR 403.7, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR part 403 and achieve the pretreatment standards for existing sources (PSES) as specified in 40 CFR 455.20(d). For the priority pollutants, such sources must achieve discharges not exceeding the quantity (mass) determined by multiplying the process wastewater flow subject to this subpart as defined in 40 CFR 455.21(d) times the concentrations listed in Table 6 of this part. If mass limitations have not been developed as required, the source shall achieve discharges not exceeding the concentration limitations listed in Table 6 of this part.

[58 FR 50690, Sept. 28, 1993]

§ 455.27 Pretreatment standards for new sources (PSNS).

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR part 403 and must achieve the pretreatment standards for new sources (PSNS) as specified in 40 CFR 455.20(d). For the priority pollutants, the source must achieve discharges not exceeding the quantity (mass) determined by multiplying the process wastewater flow subject to this subpart as defined in 40 CFR 455.21(d) times the concentrations listed in table 6 of this part. If mass limitations have not been developed as required, the source shall achieve discharges not exceeding the concentration limitations listed in table 6 of this part.

[58 FR 50690, Sept. 28, 1993]

Subpart B—Metallo-Organic Pesticide Chemicals Manufacturing Subcategory

§ 455.30 Applicability; description of the metallo-organic pesticide chemicals manufacturing subcategory.

The provisions of this subpart are applicable to discharges resulting from the manufacture of metallo-organic active ingredients containing mercury, cadmium, arsenic, or copper. The manufacture of intermediates used to manufacture the active ingredients are excluded from coverage by this subpart.

§ 455.31 Specialized definitions.

(a) "Metallo-organic active ingredients" means carbon containing active ingredients containing one or more metallic atoms in the structure.

§ 455.32 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in §§ 125.30 through 125.32, any existing point source subject to this subpart, shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control

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technology currently available (BPT). The following limitations establish the quantity or quality of pollutants or pollutant properties controlled by this paragraph which may be discharged from the manufacture of metallo-organic active ingredient: There shall be no discharge of process waste water pollutants to navigable waters.

[60 FR 33971, June 29, 1995]

- § 455.33 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT). [Reserved]
- § 455.34 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available control technology economically achievable (BAT). [Reserved]
- § 455.35 New source performance standards (NSPS). [Reserved]
- § 455.36 Pretreatment standards for existing sources (PSES). [Reserved]
- § 455.37 Pretreatment standards for new sources (PSNS). [Reserved]

Subpart C—Pesticide Chemicals Formulating and Packaging Subcategory

§ 455.40 Applicability; description of the pesticide formulating, packaging and repackaging subcategory.

- (a) The provisions of this subpart are applicable to discharges resulting from all pesticide formulating, packaging and repackaging operations except as provided in paragraphs (b), (c), (d), (e) and (f) of this section.
- (b) The provisions of this subpart do not apply to repackaging of agricultural pesticides performed at refilling establishments, as described in §455.60.
- (c) The provisions of this subpart do not apply to wastewater discharges from: the operation of employee showers and laundry facilities; the testing of fire protection equipment; the testing and emergency operation of safety showers and eye washes; storm water; Department of Transportation (DOT) aerosol leak test bath water from noncontinuous overflow baths (batch

baths) where no cans have burst from the time of the last water change-out; and on-site laboratories from cleaning analytical equipment and glassware and rinsing the retain sample container (except for the initial rinse of the retain sample container which is considered a process wastewater source for this subpart).

- (d) The provisions of this subpart do not apply to wastewater discharges from the formulation, packaging and/or repackaging of sanitizer products (including pool chemicals); microorganisms; inorganic wastewater treatment chemicals; group 1 mixtures and group 2 mixtures, as defined under §455.10.
- (e) The provisions of this subpart do not apply to wastewater discharges from the development of new formulations of pesticide products and the associated efficacy and field testing at on-site or stand-alone research and development laboratories where the resulting pesticide product is not produced for sale.
- (f) The provisions of this subpart do not apply to wastewater discharges from the formulation, packaging and/or repackaging of liquid chemical sterilant products (including any sterilant or subordinate disinfectant claims on such products) for use on a critical or semi-critical device, as defined in Section 201 of the Federal Food, Drug and Cosmetic Act and in Section 2(u) of the Federal Insecticide, Fungicide and Rodenticide Act.

[61 FR 57549, Nov. 6, 1996]

§ 455.41 Special definitions.

- (a) Initial Certification Statement for this subpart means a written submission to the appropriate permitting authority, e.g., the local Control Authority (the POTW) or NPDES permit writer which must be signed by the responsible corporate officer as defined in 40 CFR 403.12(1) or 40 CFR 122.22 and which:
- (1) Lists and describes those product families, process lines and/or process units for which the PFPR facility is implementing the Pollution Prevention Alternative ("P2 Alternative");
- (2) Describes the PFPR facility specific practices for each product family/process line/process unit which are to

be practiced as part of the P2 Alternative:

- (3) Describes any justification allowing modification to the practices listed in Table 8 to this part 455; and
- (4) Lists the treatment system being used to obtain a P2 allowable discharge (as defined in 455.41).
- (b) Periodic Certification Statement for this subpart means a written submission to the appropriate permitting authority, e.g., the local Control Authority (the POTW) or NPDES permit writer, which states that the P2 Alternative is being implemented in the manner set forth in the control mechanism (for indirect dischargers) or NPDES permit (for direct dischargers) or that a justification allowing modification of the practices listed in Table 8 to this part 455 has been implemented resulting in a change in the pollution prevention practices conducted at the facility. The Periodic Certification Statement must be signed by the responsible corporate officer as defined in 40 CFR 403.12(1) or 40 CFR 122.22.
- (c) On-site Compliance Paperwork for this subpart means data or information maintained in the offices of the PFPR facility which supports the initial and periodic certification statements as follows:
- (1) Lists and describes those product families, process lines and/or process units for which the facility is implementing the P2 Alternative;
- (2) Describes the facility specific practices for each product family/process line/process unit which are to be practiced as part of the P2 Alternative;
- (3) Describes any justification allowing modification to the practices listed in Table 8 to this part 455;
- (4) Includes a written discussion demonstrating that the treatment system being used contains the appropriate pollution control technologies (or equivalent systems/pesticide manufacturing systems) for removing the PAIs which may be found in the wastewater:
- (5) Establishes a method for demonstrating to the permitting/control authority that the treatment system is well operated and maintained; and
- (6) Includes a discussion of the rationale for choosing the method of demonstration.
 - (d) For Indirect Dischargers:

Pollution prevention (P2) allowable discharge (excluding interior wastewater sources, leak and spill clean-up water, and floor wash) for this subpart means the quantity of/concentrations of pollutants in PFPR process wastewaters that remain after a facility has demonstrated that it is using the specified practices of the Pollution Prevention Alternative as listed in Table 8 to this part 455.

Pollution prevention (P2) allowable discharge for interior wastewater sources, leak and spill cleanup water, and floor wash for this subpart means the quantity of/concentrations of pollutants in PFPR process wastewaters that remain after a facility has demonstrated that it is using the specified practices of the Pollution Prevention Alternative as listed in Table 8 to this part 455 and that have been pretreated using appropriate pollution control technologies, as defined in §455.10(g), or a pesticide manufacturer's treatment system, or an equivalent system, used individually, or in any combination to achieve a sufficient level of pollutant reduction. Pretreatment requirements may be modified or waived by the Control Authority (POTW) to the extent that removal credits have been granted by the POTW in accordance with 40 CFR 403.7, provided the granting of such credits does not result in pass through or interference as defined in 40 CFR 403.3 and complies with the provisions of 40 CFR 403.5. The facility must demonstrate that the appropriate pollution control technology is properly maintained and operated.

(e) For Direct Dischargers:

Pollution prevention (P2) allowable discharge for this subpart means the quantity of/concentrations of pollutants in PFPR process wastewaters that remain after a facility has demonstrated that it is using the specified practices of the Pollution Prevention Alternative as listed in Table 8 to this part 455 and that have been treated using appropriate pollution control technologies, as defined in §455.10(g), or a pesticide manufacturer's treatment system, or an equivalent system, used individually, or in any combination to achieve a sufficient level of pollutant reduction. The facility must demonstrate that the appropriate pollution control

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technology is properly maintained and operated.

(f) Process wastewater, for this subpart, means all wastewater associated with pesticide formulating, packaging and repackaging except for sanitary water, non-contact cooling water and those wastewaters excluded from the applicability of the rule in §455.40.

[61 FR 57549, Nov. 6, 1996]

§ 455.42 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available, (BPT).

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

(a) Except as provided in paragraph (b) of this section, the following limitations establish the quantity or quality of pollutants or pollutant properties controlled by this paragraph which may be discharged from the formulation, packaging or repackaging of pesticides: There shall be no discharge of process wastewater pollutants to navigable waters.

Note: For existing PFPR/Manufacturer facilities, as defined in §455.10(p), which are also subject to the provisions of §455.22 or §455.32, "zero discharge" means that permitting authorities shall provide no additional discharge allowance for those pesticide active ingredients (PAIs) in the pesticide formulating, packaging and repackaging wastewaters when those PAIs are also manufactured at the same facility.

- (b) Any existing facility subject to paragraph (a) of this section may have a pollution prevention allowable discharge, as defined in §455.41(e), of wastewater pollutants to navigable waters if the discharger agrees to NPDES permit conditions as follows:
- (1) The discharger will meet the requirements of the Pollution Prevention Alternative listed in Table 8 to this part 455 (or received a modification by Best Professional Judgement for modifications not listed in Table 8 of this part 455);

- (2) The discharger will notify its NPDES permit writer at the time of renewal or modification of its permit, of its intent to utilize the Pollution Prevention Alternative by submitting to the NPDES permit writer an initial certification statement as described in § 455.41(a);
- (3) The discharger will submit to its NPDES permitting authority a periodic certification statements as described in §455.41(b) once each year of operation; and
- (4) The discharger will maintain at the office of the facility and make available for inspection the on-site compliance paperwork as described in §455.41(c).

[61 FR 57550, Nov. 6, 1996]

§ 455.43 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT).

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology.

(a) Except as provided in paragraph (b) of this section, the BCT limitations are established as follows: There shall be no discharge of process wastewater pollutants to navigable waters.

Note: For existing PFPR/Manufacturer facilities, as defined in §455.10(p), which are also subject to the provisions of §§455.23, zero discharge means that permitting authorities shall provide no discharge additional discharge allowance for those pesticide active ingredients (PAIs) in the pesticide formulating, packaging and repackaging wastewaters when those PAIs are also manufactured at the same facility.

- (b) Any existing facility subject to paragraph (a) of this section may have a pollution prevention allowable discharge, as defined in §45.41(e), of wastewater pollutants to navigable waters if the discharger agrees to NPDES permit conditions as follows:
- (1) The discharger will meet the requirements of the Pollution Prevention Alternative listed in Table 8 to this part 455 (or received a modification by

Best Professional Judgement for modifications not listed in Table 8 of this part 455):

- (2) The discharger will notify its NPDES permit writer at the time of renewal or modification of its permit, of its intent to utilize the Pollution Prevention Alternative by submitting to the NPDES permit writer an initial certification statement as described in § 455.41(a);
- (3) The discharger will submit to its NPDES permitting authority a periodic certification statement as described in §455.41(b) once each year of operation; and
- (4) The discharger will maintain at the office of the facility and make available for inspection the on-site compliance paperwork as described in §455.41(c).

[61 FR 57550, Nov. 6, 1996]

§ 455.44 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available control technology economically achievable (RAT)

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology (BAT).

(a) Except as provided in paragraph (b) of this section, the BAT limitations are established as follows: There shall be no discharge of process wastewater pollutants to navigable waters.

NOTE: For existing PFPR/Manufacturer facilities, as defined in §455.10(p), which are also subject to the provisions of §§455.24, zero discharge means that permitting authorities shall provide no additional discharge allowance for those pesticide active ingredients (PAIs) in the pesticide formulating, packaging and repackaging wastewaters when those PAIs are also manufactured at the same facility.

- (b) Any existing facility subject to paragraph (a) of this section may have a pollution prevention allowable discharge, as defined in §455.41(e), of wastewater pollutants to navigable waters if the discharger agrees to NPDES permit conditions as follows:
- (1) The discharger will meet the requirements of the Pollution Prevention

Alternative listed in Table 8 to this part 455 (or received a modification by Best Professional Judgement for modifications not listed on Table 8 of this part 455):

- (2) The discharger will notify its NPDES permitting authority at the time of renewal or modification of its permit, of its intent to utilize the Pollution Prevention Alternative by submitting to the NPDES permit writer an initial certification statement as described in § 455.41(a);
- (3) The discharger will submit to its NPDES permit writer a periodic certification statement as described in §455.41(b) once each year of operation; and
- (4) The discharger will maintain at the office of the facility and make available for inspection the on-site compliance paperwork as described in §455.41(c).

[61 FR 57551, Nov. 6, 1996]

§ 455.45 New source performance standards (NSPS).

(a) Any new source, except as provided in paragraph (b) of this section, subject to this subpart which discharges process wastewater must meet the following standards: There shall be no discharge of process wastewater pollutants to navigable waters.

NOTE: For new PFPR/Manufacturer facilities, as defined in §455.10(p), which are also subject to the provisions of §§455.25, zero discharge means that permitting authorities shall provide no additional discharge allowance for those pesticide active ingredients (PAIs) in the pesticide formulating, packaging and repackaging wastewaters when those PAIs are also manufactured at the same facility.

- (b) Any new source subject to paragraph (a) of this section may have a pollution prevention allowable discharge, as defined in §455.41(e), of wastewater pollutants to navigable waters if the discharger agrees to NPDES permit conditions as follows:
- (1) The discharger will meet the requirements of the Pollution Prevention Alternative listed in Table 8 to this part 455 (or received a modification by Best Professional Judgement for modifications not listed in Table 8 of this part 455);
- (2) The discharger will notify its NPDES permit writer at the time of

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submitting its application for a permit, of its intent to utilize the Pollution Prevention Alternative by submitting to the NPDES permit writer an initial certification statement as described in §455.41(a);

- (3) The discharger will submit to its NPDES permitting authority a periodic certification statement as described in §455.41(b) once each year of operation; and
- (4) The discharger will maintain at the office of the facility and make available for inspection the on-site compliance paperwork as described in §455.41(c).

[61 FR 57551, Nov. 6, 1996]

§ 455.46 Pretreatment standards for existing sources (PSES).

- (a) Except as provided in 40 CFR 403.7 and 403.13 or in paragraph (b) of this section, no later than November 6, 1999, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR part 403 and achieve PSES as follows: There shall be no discharge of process wastewater pollutants.
- (b) Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to paragraph (a) of this section which introduces pollutants into a publicly owned treatment works must comply with 40 CFR part 403 and may have a pollution prevention allowable discharge of wastewater pollutants, as defined in §455.41(d), if the discharger agrees to control mechanism or pretreatment agreement conditions as follows:
- (1) The discharger will meet the requirements of the Pollution Prevention Alternative listed in Table 8 to this part 455 (or received a modification by Best Engineering Judgement for modifications not listed in Table 8 to this part 455);
- (2) The discharger will notify its local Control Authority at the time of renewing or modifying its individual control mechanism or pretreatment agreement of its intent to utilize the Pollution Prevention Alternative by submitting to the local Control Authority an initial certification statement as described in § 455.41(a);

- (3) The discharger will submit to its local Control Authority a periodic certification statement as described in §455.41(b) during the months of June and December of each year of operation; and
- (4) The discharger will maintain at the offices of the facility and make available for inspection the on-site compliance paperwork as described in §455.41(c).
- (c) Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to §455.46(b) which introduces pollutants into a publicly owned treatment works must comply with 40 CFR part 403 and may submit a request to its Control Authority to pretreatment of: floor wash; and/or a non-reusable final rinse of a triple rinse, if the concentrations of pesticide active ingredients and priority pollutants in those wastewater sources have been demonstrated to be too low to be effectively pretreated at the facility. The Control Authority may waive pretreatment these for two wastewaters only if the existing source makes the demonstrations and is in compliance with 40 CFR 403.5.

[61 FR 57551, Nov. 6, 1996]

§ 455.47 Pretreatment standards for new sources (PSNS).

- (a) Except as provided in 40 CFR 403.7 and 403.13 or in paragraph (b) of this section, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR part 403 and achieve PSNS as follows: There shall be no discharge of process wastewater pollutants.
- (b) Except as provided in 40 CFR 403.7 and 403.13, any new source subject to paragraph (a) of this section which introduces pollutants into a publicly owned treatment works must comply with 40 CFR part 403 and may have a pollution prevention allowable discharge of wastewater pollutants, as defined in §455.41(d), if the discharger agrees to control mechanism or pretreatment agreement conditions as follows:
- (1) The discharger will meet the requirements of the Pollution Prevention Alternative listed in Table 8 to this part 455 (or received a modification by

Best Engineering Judgement for modifications not listed in Table 8 to this part 455);

- (2) The discharger will notify its local Control Authority at the time of submitting its application for an individual control mechanism or pretreatment agreement of its intent to utilize the Pollution Prevention Alternative by submitting to the local Control Authority an initial certification statement as described in § 455.41(a);
- (3) The discharger will submit to its local Control Authority a periodic certification statement as described in §455.41(b) during the months of June and December of each year of operation; and
- (4) The discharger will maintain at the offices of the facility and make available for inspection the on-site compliance paperwork as described in § 455.41(c).
- (c) Except as provided in 40 CFR 403.7 and 403.13, any new source subject to paragraph (b) of this section which introduces pollutants into a publicly owned treatment works must comply with 40 CFR part 403 and may submit a request to its Control Authority to waive pretreatment of: floor wash; and/ or a non-reusable final rinse of a triple rinse, if the concentrations of pesticide active ingredients and priority pollutants in those wastewater sources have been demonstrated to be too low to be effectively pretreated at the facility. The Control Authority may waive pretreatment for these wastewaters only if the new source makes the demonstrations and is in compliance with 40 CFR 403.5.

[61 FR 57552, Nov. 6, 1996]

Subpart D—Test Methods for Pesticide Pollutants

\$455.50 Identification of test procedures.

The pesticide active ingredients to which this section applies and for which effluent limitations guidelines and standards are specified in this part are named, together with the Chemical Abstracts Service (CAS) number (provided to assist in identifying the pesticide active ingredient only) and ana-

lytical method(s) designation(s) in Table IG at 40 CFR 136.3(a). Except as provided in 40 CFR 136.5, the discharge parameter values required under the Clean Water Act must be determined by one of the analytical methods cited and described in Table IG at 40 CFR 136.3(a). Pesticide manufacturers may not use the analytical method cited in Table IB, Table IC, or Table ID of 40 CFR 136.3(a) to make these determinations (except where the method cited in those tables is identical to the method specified in Table IG at 40 CFR 136.3(a)). The full texts of the analytical methods cited in Table IG at 40 CFR 136.3(a) are contained in the Methods For The Determination of Nonconventional Pesticides In Municipal and Industrial Wastewater, Volume I, EPA 821-R-93-010A (August 1993 Revision I) and Volume II, EPA 821-R-93-010B (August 1993) (the "Compendium"). Each pesticide chemical manufacturer that is required to determine discharge parameter values under this part using one of the analytical methods cited in Table IG at 40 CFR 136.3(a) must request in writing a copy of the Compendium from the permit authority or local control authority (as applicable) prior to determining such discharge parameter values, unless the manufacturer already has a copy.

[72 FR 11248, Mar. 12, 2007]

Subpart E—Repackaging of Agricultural Pesticides Performed at Refilling Establishments

SOURCE: 61 FR 57552, Nov. 6, 1996, unless otherwise noted.

§ 455.60 Applicability; description of repackaging of agricultural pesticides performed by refilling establishments subcategory.

(a) The provisions of this subpart are applicable to discharges resulting from all repackaging of agricultural pesticides performed by refilling establishments, as defined in §455.10; whose primary business is wholesale or retail sales; and where no pesticide manufacturing, formulating or packaging occurs, except as provided in paragraphs (b), (c) and (d) of this section.

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- (b) The provisions of this subpart do not apply to wastewater discharges from custom application or custom blending, as defined in 40 CFR 167.3.
- (c) The provisions of this subpart do not apply to wastewater discharges from: the operation of employee showers and laundry facilities; the testing of fire protection equipment; the testing and emergency operation of safety showers and eye washes; or storm water.
- (d) The provisions of this subpart do not apply to wastewater discharges from the repackaging of microorganisms or Group 1 Mixtures, as defined under §455.10, or non-agricultural pesticide products.

§ 455.61 Special definitions.

Process wastewater, for this subpart, means all wastewater except for sanitary water and those wastewaters excluded from the applicability of the rule in §455.60.

§ 455.62 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable pollutant control technology (BPT).

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable pollutant control technology: There shall be no discharge of process wastewater pollutants.

§ 455.63 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT).

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollution control

technology: There shall be no discharge of process wastewater pollutants.

§ 455.64 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable: There shall be no discharge of process wastewater pollutants.

§ 455.65 New source performance standards (NSPS).

Any new source subject to this subpart which discharges process wastewater pollutants must meet the following standards: There shall be no discharge of process wastewater pollutants.

§ 455.66 Pretreatment standards for existing sources (PSES).

Except as provided in 40 CFR 403.7 and 403.13, no later than November 6, 1999 subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR part 403 and achieve the pretreatment standards for existing sources as follows: There shall be no discharge of process wastewater pollutants.

§ 455.67 Pretreatment standards for new sources (PSNS).

Except as provided in 40 CFR 403.7 and 403.13, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR part 403 and achieve the pretreatment standards for existing sources as follows: There shall be no discharge of process wastewater pollutants.

TABLE 1 TO PART 455—LIST OF ORGANIC PESTICIDE ACTIVE INGREDIENTS

EPA census code	Pesticide code	Pesticide name	CAS No.
1	10501	Dicofol [1,1-Bis(chlorophenyl)-2,2,2-trichloroethanol]	00115–32–2

 51501	Maleic Hydrazide	00123–33–1
 42002	EDB [1,2-Ethylene dibromide]	00106-93-4
 82901	Vancide TH [1,3,5-Triethylhexahydro-s-triazine]	07779–27–3
	Dichloropropene	00542-75-6
	azoniaadamantanechloride].	04080–31–3
	Triadimefon	43121-43-3
		00070-30-4
		01940-43-8 00097-23-4
		00062-73-7
		02686-99-9
82601		00085-34-7
 (1)	Fenac Salts and Esters	(1)
 82001	2,4,5-T [2,4,5-Trichlorophenoxyacetic acid]	00093-76-5
(¹)	2,4,5-T Salts and Esters	(1)
		00094–75–7
		(1)
		00094-82-6
		(') 00101–05–3
		39300-45-3
		00099-30-9
8707		02491–38–5
15801		07786-34-7
 39001	Sulfallate [2-chloroallyldiethyldithiocarbamate]	00095-06-7
 84101	Chlorfenvinphos	00470-90-6
10010	Cyanazine	21725-46-2
19101		01918–16–7
		00094–74–6
		(1)
		26530-20-1
		00083-26-1 00120-36-5
		00120-30-3 (1)
		00093-65-2
	MCPP Salts and Esters	(1)
 601Ò1	Thiabendazole	00148-79-8
 80815	Belclene 310 [2-(methylthio)-4-(ethylamino)-6-(1,2-	22936-75-0
21201		00101-10-0
		(1)
		21564–17–0
		34375–28–5
6770	Chlorophacinone	03691-35-8
 102401	Landrin-1 [3,4,5-trimethylphenylmethylcarbamate]	02686-99-9
101701	Pronamide	23950-58-5
		02032-65-7
		00709-98-8
		55406-53-6 00117-52-2
		00117-52-2 (1)
		00534–52–1
		21087-64-9
19401	CPA (4-chlorophenoxyacetic acid)	00122-88-3
 (¹)	CPA Salts and Esters	(1)
19201	MCPB [4-(2-Methyl-4-chlorophenoxy)butyric acid]	00094–81–5 (¹)
		02032–59–9
		02593-15-9
		00091-53-2
59804	Quinoliol sulfate (8-Quinoliol sulfate)	00134-31-6
 103301	Acephate	30560-19-1
114401	Acifluorfen	50594-66-6
114402	Acifluorfen Salts and Esters	62476-59-9
90501	Alachlor	15972-60-8
		00116-06-3
69105	Hyamine 3500 [Alkyl* dimethyl benzyl ammonium chloride* (50% C14, 40% C12, 10% C16)].	68424–85–1
4001	Allethrin (all isomers and allethrin coil)	00584-79-2
 80801	Ametryn	00834-12-8
 106201	Amitraz	33089-61-1
	29001 17901 109901 44901 44901 55004 55004 55004 82601 (1)	Dichloropropene

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	EPA census code	Pesticide code	Pesticide name	CAS No.
61		105201	Bendiocarb	22781–23–3
62		99101	Benomyl and Carbendazim	17804-35-2
		8901	Benzene Hexachloride	00608-73-1
		9501	Benzyl benzoate	00120-51-4
		10101	Lethane 384 [Beta-Thiocyanoethyl esters of mixed fatty acids containing from 10–18 carbons].	00301-11-1
		104301	Bifenox	42576-02-3
		12301	Bromacil	00314-40-9
		12302 35301	Bromacil, lithium	53404-19-6 01689-84-5
		35302	Bromoxynil octanoate	01689-99-2
		112301	Butachlor	23184–66–9
		101401	Giv-gard [β-Bromo-β-nitrostyrene]	07166-19-0
		81701	Captafol	02425-06-
74		81301	Captan	00133-06-2
75		56801	Carbaryl [Sevin]	00063-25-2
		90601	Carbofuran	01563-66-2
		90602	Carbosulfan	55285-14-8
		29901	Chloramben	00133-90-4
		(1)	Chloramben Salts and Esters	(1
		58201	Chlordane	00057-74-9
		27301	Chloroneb	02675-77-6
		81501	Chloropicrin	00076-06-2
		81901 25501	Chlorothalonil	01897-45-6
		83701	Stirofos	01982-47-4 00961-11-5
		59102	Chlorpyrifos methyl	05598-13-0
		59101	Chlorpyrifos	02921-88-2
		14504	Mancozeb	08018-01-7
		109301	Fenvalerate	51630–58–
		43401	Cycloheximide	00066-81-9
92		28901	Dalapon (2,2-dichloropropionic acid)	00075-99-0
92		(1)	Dalapon Salts and Esters	(1
93		27501	Dienochlor	02227-17-0
		57601	Demeton [O,O-Diethyl O-(and S-) (2-ethylthio)ethyl) phosphorothioate].	08065–48–3
95		104801	Desmedipham	13684-56-
		14502	Diammonium ethylenebisdithiocarbamate	03566-10-7
		11301	DBCP [Dibromo-3-chloropropane]	00096-12-8
		29801	Dicamba [3,6-Dichloro-o-anisic acid]	01918-00-9
		(¹) 29601	Dicamba Salts and Esters	^ر) 00117–80–6
		103401	Thiophanate ethyl	23564-06-9
		32101	Perthane [Diethyl diphenyl dichloroethane and related compounds].	00072-56-0
102		86501	EXD [Diethyl dithiobis (thionoformate)]	00502-55-6
103		57801	Diazinon	00333-41-
		108201	Diflubenzuron	35367-38-
105		69122	Benzethonium chloride	00121-54-0
		35001	Dimethoate	00060-51-
		53501	Parathion methyl	00298-00-0
		35201	Dicrotophos	00141-66-2
		58801	Crotoxyphos	07700-17-6
		78701	DCPA [Dimethyl 2,3,5,6-tetrachloroterephthalate]	01861-32-
		57901	Trichlorofon	00052-68-6
		37505 37801	Dinoseb	00088-85-7
		67701	Diphacinone	00078-34-2 00082-66-6
		36601	Diphenamid	00062-66-6
		38501	Diphenylamine	00122-39-4
		47201	MGK 326 [Dipropyl isocinchomeronate]	00113-48-4
		63301	Nabonate [Disodium cyanodithioimidocarbonate]	00118-93-2
		35505	Diuron	00330-54-
		44303	Metasol DGH [Dodecylguanidine hydrochloride]	13590-97-
121		44301	Dodine (dodecylquanidine acetate)	02439-10-3
122		79401	Endosulfan [Hexachlorohexahydromethano-2,4,3-benzodioxathiepin-3-oxide].	00115–29–7
		38901 (¹)	Endothall Endothall Salts and Esters	00145–73–3 (1)
124		41601	Endrin	00072-20-8
125		113101	Ethalfluralin	55283-68-6
		58401	Ethion	00563-12-2
			Ethoprop	

	EPA census code	Pesticide code	Pesticide name	CAS No.
128		100601	Fenamiphos	22224-92-6
		28801	Chlorobenzilate	00510-15-6
		41405	Butylate	02008-41-5
		59901	Famphur	00052-85-7
32		206600	Fenarimol	60168-88-
		53301	Fenthion	00055-38-
		34801	Ferbam	14484–64–
		35503	Fluometuron	02164-17-
		75002	Fluoroacetamide	00640-19-
37		81601	Folpet	00133-07-
		103601	Glyphosate [N-(Phosphonomethyl) glycine]	01071-83-
38		(1)	Glyphosate Salts and Esters	(1
39		103602	Glyphosine	02439-99-
40		44801	Heptachlor	00076-44-
41		115601	Cycloprate	54460-46-
		107201	Hexazinone	51235-04-
43		109401	Isofenphos	25311-71-
		100201	Isopropalin	33820-53-
		47601	Propham	00122-42-
		97401	Karbutilate	04849-32-
		9001	Lindane	00058-89-
		35506	Linuron	00330-55-
		39504	Malachite green [Ammonium(4-(p-(dimethylamino)-alpha- phenylbenzylidine)-2,5-cyclohexadien-1-ylidene)-dimethyl chloride].	00569-64-
50		57701	Malathion	00121-75-
		14505	Maneb	12427–38–
		34802	Manganous dimethyldithiocarbamate	15339–36–
53		114001	Mefluidide [N-(2,4-dimethyl-5-(((trifluoromethyl) sulfonyl)-amino) phenyl acetamide].	53780–34–
		(1)	Mefluidide Salts and Esters	(1
		101201	Methamidophos	10265-92-
		100301	Methidathion	00950–37–
		90301	Methomyl	16752–77–
		105401	Methoprene	40596-69-
58		34001	Methoxychlor	00072-43-
		69134	Methylbenzethonium chloride	15716–02–
		53201	Methylbromide	00074-83-
62		69129	Hyamine 2389 [Methyldodecylbenzyl trimethyl ammonium chloride 80% and methyldodecylxylylene bis (trimethylammoniumchloride) 20%].	01399–80–
63		68102	Methylenebisthiocyanate	06317-18-
		54101	Quinmethionate	02439-01-
		108801	Metolachlor	51218-45-
		44201	Mexacarbate	00315-18-
		14601	Metiram	09006-42-
		35502	Monuron TCA	00140-41-
		35501	Monuron	
		103001	Napropamide	00150–68– 15299–99–
		80301 14503	Deet	00134-62-
		14503	Naled	00142-59-
	Į.	24404	INAIGU	00300-76-
73		34401	Norea	
73 74		35801	Norea	
73 74 75		35801 105801	Norflurazon	27314-13-
73 74 75 76		35801 105801 30701	Norflurazon	27314–13– 05333–99–
73 74 75 76 76		35801 105801 30701 30702	Norflurazon	27314–13– 05333–99– 00132–66–
73 74 75 76 76 76		35801 105801 30701 30702 30703	Norflurazon N-1-Naphthylphthalimide Naptalam [N-1-Naphthylphthalamic acid] Naptalam Salts and Esters	27314–13– 05333–99– 00132–66– 00132–67–
73 74 75 76 76 76		35801 105801 30701 30702 30703 57001	Norflurazon N-1-Naphthylphthalimide Naptalam [N-1-Naphthylphthalamic acid] Naptalam Salts and Esters MGK 264 [N-2-Ethylhexyl bicycloheptene dicarboximide]	27314-13- 05333-99- 00132-66- 00132-67- 00136-45-
73 74 75 76 76 76 77 78		35801 105801 30701 30702 30703 57001 84301	Norflurazon N-1-Naphthylphthalimide Naptalam [N-1-Naphthylphthalamic acid] Naptalam Salts and Esters MGK 264 [N-2-Ethylhexyl bicycloheptene dicarboximide] Benfluralin	27314-13- 05333-99- 00132-66- 00132-67- 00136-45- 01861-40-
73 74 75 76 76 76 77 78 79		35801 105801 30701 30702 30703 57001 84301 79501	Norflurazon N-1-Naphthylphthalimide Naptalam [N-1-Naphthylphthalamic acid] Naptalam Salts and Esters MGK 264 [N-2-Ethylhexyl bicycloheptene dicarboximide] Benfluralin Sulfotepp	27314-13- 05333-99- 00132-66- 00132-67- 00136-45- 01861-40- 03689-24-
73 74 75 76 76 76 77 78 79 80		35801 105801 30701 30702 30703 57001 84301 79501 79101	Norflurazon N-1-Naphthylphthalimide Naptalam [N-1-Naphthylphthalamic acid] Naptalam Salts and Esters MGK 264 [N-2-Ethylhexyl bicycloheptene dicarboximide] Benfluralin Sulfotepp Aspon	27314-13- 05333-99- 00132-66- 00132-67- 00136-45- 01861-40- 03689-24- 03244-90-
73 74 75 76 76 76 77 78 79 80 81		35801 105801 30701 30702 30703 57001 84301 79501 79101 36501	Norflurazon N-1-Naphthylphthalimide Naptalam [N-1-Naphthylphthalamic acid] Naptalam Salts and Esters MGK 264 [N-2-Ethylhexyl bicycloheptene dicarboximide] Benfluralin Sulfotepp Aspon Coumaphos	27314-13- 05333-99- 00132-66- 00132-67- 00136-45- 01861-40- 03689-24- 03244-90- 00056-72-
73 74 75 76 76 76 77 78 79 80 81 82		35801 105801 30701 30702 30703 57001 84301 79501 79101 36501 32701	Norflurazon N-1-Naphthylphthalimide Naptalam [N-1-Naphthylphthalamic acid] Naptalam Salts and Esters MGK 264 [N-2-Ethylhexyl bicycloheptene dicarboximide] Benfluralin Sulfotepp Aspon Coumaphos Fensulfothion	27314-13- 05333-99- 00132-66- 00132-67- 00136-45- 01861-40- 03689-24- 03244-90- 00056-72- 00115-90-
73 74 75 76 76 76 77 78 79 80 81 82 83		35801 105801 30701 30702 30703 57001 84301 79501 79101 36501 32701	Norflurazon N-1-Naphthylphthalimide Naptalam [N-1-Naphthylphthalamic acid] Naptalam Salts and Esters MGK 264 [N-2-Ethylhexyl bicycloheptene dicarboximide] Benfluralin Sulfotepp Aspon Coumaphos Fensulfothion Disulfoton	27314-13- 05333-99- 00132-96- 00132-67- 00136-45- 01861-40- 03689-24- 03244-90- 0056-72- 00115-90- 00298-04-
73 74 75 76 76 76 77 78 79 80 81 82 83 84		35801 105801 30701 30702 30703 57001 84301 79501 79101 36501 32701 105901	Norflurazon N-1-Naphthylphthalimide Naptalam [N-1-Naphthylphthalamic acid] Naptalam Salts and Esters MGK 264 [N-2-Ethylhexyl bicycloheptene dicarboximide] Benfluralin Sulfotepp Aspon Coumaphos Fensulfothion Disulfoton Fenitrothion	27314-13- 05333-99- 00132-66- 00132-67- 00136-45- 01861-40- 03689-24- 03244-90- 00056-72- 00115-90- 00298-04- 00122-14-
73 74 75 76 76 76 77 78 79 80 81 82 83 84		35801 105801 30701 30702 30703 57001 84301 79501 79101 36501 32701	Norflurazon N-1-Naphthylphthalimide Naptalam [N-1-Naphthylphthalamic acid] Naptalam Salts and Esters MGK 264 [N-2-Ethylhexyl bicycloheptene dicarboximide] Benfluralin Sulfotepp Aspon Coumaphos Fensulfothion Disulfoton	27314-13- 05333-99- 00132-66- 00132-67- 00136-45- 01861-40- 03689-24- 03244-90- 00056-72- 00115-90- 00298-04- 00122-14-
73 74 75 76 76 76 77 78 79 80 81 82 83 84 85		35801 105801 30701 30702 30703 57001 84301 79501 79101 36501 32701 105901	Norflurazon N-1-Naphthylphthalimide Naptalam [N-1-Naphthylphthalamic acid] Naptalam Salts and Esters MGK 264 [N-2-Ethylhexyl bicycloheptene dicarboximide] Benfluralin Sulfotepp Aspon Coumaphos Fensulfothion Disulfoton Fenitrothion	27314–13- 05333–99- 00132–66- 00132–67- 00136–45- 01861–40- 03689–24- 03244–90- 00056–72- 00115–90- 00298–04- 00122–14- 00732–11-
73 74 75 76 76 77 78 79 80 81 82 83 84 85 86		35801 105801 30701 30702 30703 57001 84301 79501 79101 36501 32501 105901 59201	Norflurazon N-1-Naphthylphthalimide Naptalam [N-1-Naphthylphthalamic acid] Naptalam Salts and Esters MGK 264 [N-2-Ethylhexyl bicycloheptene dicarboximide] Benfluralin Sulfotepp Aspon Coumaphos Fensulfothion Disulfoton Fenitrothion Phosmet Azinphos Methyl	27314-13- 05333-99- 00132-96- 00132-67- 00136-45- 01861-40- 03689-24- 03244-90- 0056-72- 00115-90- 00298-04- 00122-14- 00732-11- 00086-50-
73 74 75 76 76 76 77 78 79 80 81 82 83 84 85 86 87		35801 105801 30701 30702 30703 57001 84301 79501 36501 32701 105901 59201 58001 58702	Norflurazon N-1-Naphthylphthalimide Naptalam [N-1-Naphthylphthalamic acid] Naptalam Salts and Esters MGK 264 [N-2-Ethylhexyl bicycloheptene dicarboximide] Benfluralin Sulfotepp Aspon Coumaphos Fensulfothion Disulfoton Fenitrothion Phosmet Azinphos Methyl Oxydemeton methyl	27314-13- 05333-99- 0132-66- 00132-67- 00136-45- 01861-40- 03689-24- 03244-90- 00056-72- 00115-90- 00298-04- 00122-14- 00732-11- 00086-50-
73 74 75 76 76 76 77 78 79 80 81 82 83 84 85 86 87 92		35801 105801 30701 30702 30703 57001 84301 79501 79101 36501 32701 32501 105901 59201 58001 18702 (¹)	Norflurazon N-1-Naphthylphthalimide Naptalam [N-1-Naphthylphthalamic acid] Naptalam Salts and Esters MGK 264 [N-2-Ethylhexyl bicycloheptene dicarboximide] Benfluralin Sulfotepp Aspon Coumaphos Fensulfothion Disulfoton Fenitrothion Phosmet Azinphos Methyl Oxydemeton methyl Organo-tin pesticides	27314-13- 05333-99- 00132-67- 00136-45- 01861-40- 03689-24- 03244-90- 00156-72- 00115-90- 00298-04- 00732-11- 00086-50- 00301-12- (1
73 74 75 76 76 76 77 78 79 80 81 82 83 84 85 86 87 92 94		35801 105801 30701 30702 30703 57001 84301 79501 79101 36501 32701 32501 105901 58201 58702 (1)	Norflurazon N-1-Naphthylphthalimide Naptalam [N-1-Naphthylphthalamic acid] Naptalam Salts and Esters MGK 264 [N-2-Ethylhexyl bicycloheptene dicarboximide] Benfluralin Sulfotepp Aspon Coumaphos Fensulfothion Disulfoton Fenitrothion Phosmet Azinphos Methyl Oxydemeton methyl Organo-tin pesticides Oryzalin	27314–13- 05333–99- 00132–66- 00132–67- 00136–45- 01861–40- 03669–24- 03244–90- 0056–72- 00115–90- 00298–04- 00122–14- 00732–11- 00086–50- 00301–12- (19044–88-
73 74 75 76 76 76 77 78 79 80 81 82 83 84 85 86 87 92 94 95		35801 105801 30701 30702 30703 57001 84301 79501 79101 36501 32701 32501 105901 59201 58001 18702 (¹)	Norflurazon N-1-Naphthylphthalimide Naptalam [N-1-Naphthylphthalamic acid] Naptalam Salts and Esters MGK 264 [N-2-Ethylhexyl bicycloheptene dicarboximide] Benfluralin Sulfotepp Aspon Coumaphos Fensulfothion Disulfoton Fenitrothion Phosmet Azinphos Methyl Oxydemeton methyl Organo-tin pesticides	18530–56– 27314–13– 05333–99– 00132–66– 00132–67– 00136–45– 01861–40– 03689–24– 03244–90– 00056–72– 00115–90– 00298–04– 00122–14– 00732–11– 0086–50– 01301–12– (1 19044–88– 23135–22– 42874–03–

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	EPA census code	Pesticide code	Pesticide name	CAS No.
198		219900	Sulprofos Oxon	38527-90-1
		41801	Santox (O-Ethyl O-(p-nitrophenyl) phenylphosphonothioate	02104-64-5
200		41701	Fonofos	00944-22-9
		47802	Propoxur (o-Isopropylphenylmethylcarbamate)	00114-26-1
		57501	Parathion	00056-38-2
		108501	Pendimethalin	40487-42-1
		56502 63001	Pentachloronitrobenzene	00082-68-8 00087-86-5
		63003	Pentachlorophenol Salts and Esters	00131-52-2
		108001	Perfluidone	37924-13-3
		109701	Permethrin	52645-53-1
		98701	Phenmedipham	13684-63-4
		64501	Phenothiazine	00092-84-2
211		64103	Phenylphenol	00090-43-7
		57201	Phorate	00298-02-2
		97701	Phosalone	02310-17-0
		18201	Phosphamidon	13171-21-6
		5101	Picloram	01918-02-1
		5104	Pictoram Salts and Esters	02545-60-0
		67501 69183	Piperonyl butoxide PBED (Busan 77) [Poly (oxyethylene (dimethylimino) ethylene	00051-03-6
			(dimethylimino) ethylene dichloride].	31512-74-0
		34803 102901	Busan 85 [Potassium dimethyldithiocarbamate]	00128-03-0 51026-28-9
ეეი		39002	methyldithiocarbamate]. KN Methyl [Potassium N-methyldithiocarbamate]	00137-41-7
		101301	Metasol J26 [Potassium N-(alpha-(nitroethyl) benzyl)-ethylene- diamine].	53404-62-9
222		111401	Profenofos	41198-08-7
		80804	Prometon	01610-18-0
		80805	Prometryn	07287-19-6
		97601	Propargite	02312-35-8
		80808	Propazine	00139-40-2
227		77702	Propionic acid	00079-09-4
		119301	Propamocarb and Propamocarb HCL	24579-73-5
		69004	Pyrethrin coils	00121-21-1
		69001	Pyrethrin I.	
		69002	Pyrethrum (other than pyrethrins)	08003-34-7
		69006	Pyrethrin II	00121-29-9
		97801	Resmethrin	10453-86-8
		58301 71003	Ronnel	00299-84-3 00083-79-4
		74801	DEF [S,S,S-Tributyl phosphorotrithioate]	00005-75-4
		35509	Siduron	01982-49-6
		82501	Silvex [2-(2,4,5-Trichlorophenoxypropionic acid)]	00093-72-1
		(1)	Silvex Salts and Esters	(1)
239		80807	Simazine	00122-34-9
240		103901	Bentazon	25057-89-0
241		34804	Carbam-S [Sodium dimethyldithiocarbanate]	00128-04-1
		75003	Sodium monofluoroacetate	00062-74-8
		39003	Vapam [Sodium methyldithiocarbamate]	00137-42-8
		57101	Sulfoxide	00120-62-7
		41301	Cycloate	01134-23-2
		41401 41402	EPTC [S-Ethyl dipropylthiocarbamate]	00759-94-4
		41402	Molinate	02212-67-1 01114-71-2
		41403	Vernolate	01114-71-2
		35604	HPTMS [S-(2-Hydroxypropyl) thiomethanesulfonate]	29803-57-4
		9801	Bensulide	00741-58-2
		105501	Tebuthiuron	34014-18-1
		59001	Temephos	03383-96-8
		12701	Terbacil	05902-51-2
		105001	Terbufos	13071-79-9
		80814	Terbuthylazine	05915-41-3
		80813	Terbutryn	00886-50-0
		63004	Tetrachlorophenol	25167-83-3
		63007	Tetrachlorophenol Salts and Esters	(1)
		35602	Dazomet	00533-74-4
		102001	Thiophanate methyl	23564-05-8
		79801	Thiram	00137-26-8
		80501 74901	Toxaphene	08001-35-2
دں		36101		00150-50-5 01582-09-8

EPA census code	Pesticide code	Pesticide name	CAS No.
265	86002 (1) 51705 14506 34805 78802 69005 69003 18301	Warfarin [3-(a-Acetonylbenzyl)-4-hydroxycoumarin] Warfarin Salts and Esters Zinc MBT [Zinc 2-mercaptobenzothiazolate] Zineb Ziram S-(2,3,3-trichloroallyl) diisopropylthiocarbamate Phenothrin Tetramethrin Chloropropham	00081-81-2 (1) 00155-04-4 12122-67-7 00137-30-4 02303-17-5 26002-80-2 07696-12-0 00101-21-3

[58 FR 50691, Sept. 28, 1993]

Table 2 to Part 455—Organic Pesticide Active Ingredient Effluent Limita-TIONS BEST AVAILABLE TECHNOLOGY ECONOMICALLY ACHIEVABLE (BAT) AND PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

Deskielde		kg/kkg (lb/1,000 lb) Pounds of pollut- ant per 1000 lbs. product		
Pesticide	Daily maximur shall not excee		Notes	
2,4-D	1.97×10 ⁻³	6.40×10 ⁻⁴		
2,4-D Salts and Esters		(1)		
2,4-DB Salts and Esters		(1)		
Acephate	1 ' '	1.97×10 ⁻⁴	l	
Acifluorfen		9.3×10 ⁻¹		
Alachlor	5.19×10 ⁻³	1.54×10 ⁻³		
Aldicarb		3.12×10 ⁻⁴		
Ametryn		2.53×10 ⁻³		
Atrazine	II.	1.72×10 ⁻³		
Azinphos Methyl		1.41×10 ⁻²		
Benfluralin		1.09×10 ⁻⁴		
Benomyl and Carbendazim		8.94×10 ⁻³		
Bellottiyi and Carbendaziin	II.	8.72×10 ⁻³	1	
Bromacil		1.16×10 ⁻¹		
Bromacil, lithium	1 ' '	(1)		
Bromoxynil		1.27×10 ⁻³		
Bromoxynil octanoate		1.27×10 ⁻³		
Busan 40 [Potassium N-hydroxymethyl -N- methyldithiocarbamate]		1.87×10 ⁻³		
Busan 85 [Potassium dimethyldithiocarbamate]		1.87×10 ⁻³		
Butachlor		1.54×10 ⁻³		
Captafol		1.31×10 ⁻⁶		
Carbam-S [Sodium dimethyldithiocarbamate]		1.87×10 ⁻³		
Carbaryl	1.6×10 ⁻³	7.3×10 ⁻⁴		
Carbofuran	1.18×10 ⁻⁴	2.80×10 ⁻⁵		
Chloroneb	8.16×10 ⁻²	3.31×10 ⁻²		
Chlorothalonil	1.51×10 ⁻³	4.57×10 ⁻⁴		
Chlorpyrifos	8.25×10 ⁻⁴	2.43×10 ⁻⁴		
Cyanazine	1.03×10 ⁻²	3.33×10 ⁻³		
Dazomet	5.74×10 ⁻³	1.87×10 ⁻³		
DCPA	7.79×10 ⁻²	2.64×10 ⁻²		
DEF [S,S,S-Tributyl phosphorotrithioate]	1.15×10 ⁻²	5.58×10 ⁻³		
Diazinon		1.12×10 ⁻³		
Dichlorprop Salts and Esters	(1)	(1)		
Dichloryos		2.95×10 ⁻⁵		
Dinoseb		1.43		
Dioxathion		1.29×10 ⁻²		
Disulfoton		3.79×10 ⁻³		
Diuron		1.4×10-2		
Endothall Salts and Esters	II.	(1)		
Endrin	' '	5.1×10 ⁻³		
Ethalfluralin		1.09×10 ⁻⁴		
Ethion	1 -	1.57×10 ⁻³		
Fenarimol		3.61×10 ⁻²		
Fensulfothion				
		7.64×10 ⁻³		
Fenthion		9.45×10 ⁻³		
Fenvalerate	5.40×10 ⁻³	2.08×10 ⁻³		
Heptachlor	8.8×10 ⁻³	2.9×10 ⁻³	1	

Note:

¹ Multiple compounds for active ingredient.

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Pesticide	kg/kkg (lb/1,000 lb) Pounds of pollut- ant per 1000 lbs. product		
resucide	Daily maximum shall not exceed	Monthly average shall not exceed	Notes
Isopropalin	7.06×10 ⁻³	2.49×10 ⁻³	1
KN Methyl [Potassium N-methyldithiocarbamate]	5.74×10 ⁻³	1.87×10 ⁻³	
Linuron	2.69×10 ⁻³	1.94×10 ⁻³	
Malathion	2.35×10 ⁻⁴	9.55×10 ⁻⁵	
MCPA Salts and Esters	(1)	(1)	
MCPP Salts and Esters	(1)	(1)	
Merphos	1.15×10 ⁻²	5.58×10 ⁻³	
Methamidophos	1.46×10 ⁻²	7.53×10 ⁻³	
Methomyl	3.82×10 ⁻³	1.76×10 ⁻³	l
Methoxychlor	3.23×10 ⁻³	1.31×10 ⁻³	
Metribuzin	1.36×10 ⁻²	7.04×10 ⁻³	
Mevinphos	1.44×10 ⁻⁴	5.10×10 ⁻⁵	
Nabam	1	1.87×10 ⁻³	
	5.74×10 ⁻³	1.87×10 ⁻³	
Nabonate		(1)	
	(1)	` '	
Norflurazon	7.20×10 ⁻⁴	3.10×10 ⁻⁴	
Organo-tin pesticides		7.42×10 ⁻³	3
Parathion	7.72×10 ⁻⁴	3.43×10 ⁻⁴	
Parathion methyl	7.72×10 ⁻⁴	3.43×10 ⁻⁴	
PCNB	5.75×10 ⁻⁴	1.90×10 ⁻⁴	
Pendimethalin	1.30×10 ⁻²	3.99×10 ⁻³	
Permethrin	2.32×10 ⁻⁴	6.06×10 ⁻⁵	
Phorate	3.12×10 ⁻⁴	9.37×10 ⁻⁵	
Phosmet	(1)	(1)	4
Prometon	7.72×10 ⁻³	2.53×10 ⁻³	
Prometryn	7.72×10 ⁻³	2.53×10 ⁻³	
Pronamide	6.64×10 ⁻⁴	2.01×10 ⁻⁴	
Propachlor	5.19×10 ⁻³	1.54×10 ⁻³	
Propanil	1.06×10 ⁻³	4.84×10 ⁻⁴	
Propazine	1	2.53×10 ⁻³	
•			
Pyrethrin I and Pyrethrin II	1.24×10 ⁻²	3.33×10 ⁻³	
Simazine	7.72×10 ⁻³	2.53×10 ⁻³	
Stirofos		1.35×10 ⁻³	
TCMTB	3.89×10 ⁻³	1.05×10 ⁻³	
Tebuthiuron	9.78×10 ⁻²	3.40×10 ⁻²	
Terbacil	3.83×10 ⁻¹	1.16×10 ⁻¹	
Terbufos		1.26×10 ⁻⁴	
Terbuthylazine		2.53×10 ⁻³	
Terbutryn		2.53×10 ⁻³	
Toxaphene	1.02×10 ⁻²	3.71×10 ⁻³	
Triadimefon	6.52×10 ⁻²	3.41×10 ⁻²	
Trifluralin		1.09×10 ⁻⁴	1
Vapam [Sodium methyldithiocarbamate]		1.87×10 ⁻³	
Ziram [Zinc dimethyldithiocarbanate]	5.74×10 ⁻³	1.87×10 ⁻³	

 $[58~{\rm FR}~50695,~{\rm Sept.}~28,~1993,~{\rm as}~{\rm amended}~{\rm at}~63~{\rm FR}~39443,~{\rm July}~22,~1998]$

TABLE 3 TO PART 455—ORGANIC PESTICIDE ACTIVE INGREDIENT NEW SOURCE PER-FORMANCE STANDARDS (NSPS) AND PRETREATMENT STANDARDS FOR NEW Sources (PSNS)

Pesticide	kg/kkg (lb/1,000 lb) per 1000	Notes	
resilide	Daily maximum shall not exceed	Monthly average shall not exceed	Notes
2,4-D Salts and Esters 2,4-DB Salts and Esters Acephate	1.42×10 ⁻³ (¹) (¹) 6.39 × 10 ⁻⁴	4.61×10 ⁻⁴ (¹) (¹) 1.97 × 10 ⁻⁴	
Acifluorfen	1.77	6.69 × 10 ⁻¹	

¹ No discharge of process wastewater pollutants.
Notes:
1 Monitor and report as total Trifluralin.
2 Pounds of product include Benomyl and any Carbendazim production not converted to Benomyl.
3 Monitor and report as total tin.
4 Applies to purification by recrystalization portion of the process.

Daily maximum shall not exceed	1 2
Aldicarb 5.21 × 10 ⁻⁴ 2.25 × 10 ⁻⁴ Ametryn 5.56 × 10 ⁻³ 1.82 × 10 ⁻³ Atrazine 3.69 × 10 ⁻³ 1.24 × 10 ⁻³ Benfluralin 3.22 × 10 ⁻⁴ 1.09 × 10 ⁻⁴ Benomyl and Carbendazom 2.52 × 10 ⁻² 6.44 × 10 ⁻³ Bolstar 1.22 × 10 ⁻² 6.28 × 10 ⁻³ Bromacil 2.76 × 10 ⁻¹ 8.36 × 10 ⁻² Bromacil, lithium (1) (1) Bromoxynil 2.84 × 10 ⁻³ 9.14 × 10 ⁻⁴ Bromoxynil Octanoate 2.84 × 10 ⁻³ 9.14 × 10 ⁻⁴ Busan 40 [Potassium N-hydroxymethyl-N-methyldithiocarbamate] 4.14 × 10 ⁻³ 1.35 × 10 ⁻³ Busan 85 [Potassium dimethyldithiocarbamate] 4.14 × 10 ⁻³ 1.35 × 10 ⁻³ Butachlor 3.74 × 10 ⁻³ 1.11 × 10 ⁻⁶ Carbam-S [Sodium dimethyldithiocarbanate] 4.14 × 10 ⁻³ 1.35 × 10 ⁻³	
Ametryn 5.56 × 10 ⁻³ 1.82 × 10 ⁻³ Atrazine 3.69 × 10 ⁻³ 1.24 × 10 ⁻³ Benfluralin 3.22 × 10 ⁻⁴ 1.09 × 10 ⁻⁴ Benomyl and Carbendazom 2.52 × 10 ⁻² 6.44 × 10 ⁻³ Bolstar 1.22 × 10 ⁻² 6.28 × 10 ⁻³ Bromacil 2.76 × 10 ⁻¹ 8.36 × 10 ⁻² Bromacil, lithium (¹) (¹) Bromoxynil 2.84 × 10 ⁻³ 9.14 × 10 ⁻⁴ Bromoxynil Octanoate 2.84 × 10 ⁻³ 9.14 × 10 ⁻⁴ Busan 40 [Potassium N-hydroxymethyl-N-methyldithiocarbamate] 4.14 × 10 ⁻³ 1.35 × 10 ⁻³ Busan 85 [Potassium dimethyldithiocarbamate] 4.14 × 10 ⁻³ 1.35 × 10 ⁻³ Butachlor 3.74 × 10 ⁻³ 1.11 × 10 ⁻³ Captafol 4.24 × 10 ⁻⁶ 1.31 × 10 ⁻⁶ Carbam-S [Sodium dimethyldithiocarbanate] 4.14 × 10 ⁻³ 1.35 × 10 ⁻³	
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Bromacil, lithium	
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Busan 85 [Potassium dimethyldithiocarbamate] 4.14 × 10 ⁻³ 1.35 × 10 ⁻³ Butachlor 3.74 × 10 ⁻³ 1.11 × 10 ⁻³ Captafol 4.24 × 10 ⁻⁶ 1.31 × 10 ⁻⁶ Carbam-S [Sodium dimethyldithiocarbanate] 4.14 × 10 ⁻³ 1.35 × 10 ⁻³	
Carbam-S [Sodium dimethyldithiocarbanate]	
Carbofuran	
Chloroneb	
Chlorothaloni 1.09 × 10 ⁻³ 3.29 × 10 ⁻⁴	
Chlorpyrifos 5.94 × 10 ⁻⁴ 1.75 × 10 ⁻⁴ Cyanazine 7.42 × 10 ⁻³ 2.40 × 10 ⁻³	
Dazomet	
DCPA 5.61 × 10 ⁻² 1.90 × 10 ⁻²	
DEF [S,S,S-Tributyl phosphorotrithioate] 1.15 × 10 ⁻² 5.58 × 10 ⁻³	
Diazinon	
Dichlorprop Salts and Esters	
Dichlorvos 6.88 × 10 ⁻⁵ 2.13 × 10 ⁻⁵	
Dinoseb 3.41 1.03 Dioxathion 2.54 × 10 ⁻² 9.31 × 10 ⁻³	
Disulfoton 5.28 × 10 ⁻³ 2.72 × 10 ⁻³	
Diuron 2.27 × 10 ⁻² 1.01 × 10 ⁻²	
Endothall Salts and Esters	
Endrin	
Ethalfluralin 3.22×10^{-4} 1.09×10^{-4}	1
Ethion 3.97 × 10 ⁻³ 1.33 × 10 ⁻³	
Fenarimol	
Fenthion 1.32 × 10 ⁻² 6.79 × 10 ⁻³	
Fenvalerate 3.91 × 10 ⁻³ 1.50 × 10 ⁻³	
Guthion	
Heptachlor	
Isopropalin	
KN Methyl [Potassium N-methyldithiocarbamate]	
Malathion 1.40 × 10 ⁻⁵ 1.40 × 10 ⁻⁵	
MCPA Salts and Esters (1) (1)	
MCPP Salts and Esters	
Merphos	
Methamidophos	
Methomyl 2.75 × 10 ⁻³ 1.27 × 10 ⁻³	
Methoxychlor 2.34 × 10 ⁻³ 9.25 × 10 ⁻⁴ Metribuzin 9.80 × 10 ⁻³ 5.06 × 10 ⁻³	
Mevinphos 1.03 × 10 ⁻⁴ 3.69 × 10 ⁻⁵	
Nabam 4.14 × 10 ⁻³ 1.35 × 10 ⁻³	
Nabonate	
Naled	
Norflurazon	
Organo-tin pesticides	3
Parathion Ethyl 5.56 × 10 ⁻⁴ 2.45 × 10 ⁻⁴ Parathion Methyl 5.56 × 10 ⁻⁴ 2.45 × 10 ⁻⁴	
PCNB	
Pendimethalin 1.30×10 ⁻² 3.99×10 ⁻³	
Permethrin 1.68 × 10 ⁻⁴ 4.39 × 10 ⁻⁵	
Phorate	
Phosmet	4
Prometon 5.56×10^{-3} 1.82×10^{-3}	
Prometyrn	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	
Propanil	1

- Pesticide	kg/kkg (lb/1,000 lb) per 1000	Notes	
resucue	Daily maximum shall not exceed	Monthly average shall not exceed	Notes
Propazine	5.56 × 10 ⁻³	1.82 × 10 ⁻³	
Pyrethrin I and Pyrethrin II	8.91 × 10 ⁻³	2.40×10^{-3}	
Simazine	5.89 × 10 ⁻³	1.91×10^{-3}	
Stirofos	2.95 × 10 ⁻³	9.72 × 10 ⁻⁴	
TCMTB	2.80 × 10 ⁻⁹	7.54×10^{-4}	
Tebuthiuron	9.78 × 10 ⁻²	3.41×10^{-2}	
Terbacil	2.76 × 10 ⁻¹	8.36 × 10 ⁻²	
Terbufos	4.92 × 10 ⁻⁴	1.26 × 10 ⁻⁴	
Terbuthylazine	5.56 × 10 ⁻³	1.82×10^{-3}	
Terbutryn	5.56 × 10 ⁻³	1.82 × 10 ⁻³	
Toxaphene	7.35 × 10 ⁻³	2.67×10^{-3}	
Triadimefon	4.69 × 10 ⁻²	2.46×10^{-2}	
Trifluralin	3.22 × 10 ⁻⁴	1.09 × 10 ⁻⁴	1
Vapam [Sodium methyldithiocarbamate]	4.14 × 10 ⁻³	1.35×10^{-3}	
Ziram [Zinc dimethyldithiocarbanate]	4.14 × 10 ⁻³	1.35 × 10 ⁻³	

¹ No discharge of process wastewater pollutants.

Notes:

Notes:
1 Monitor and report as total Trifluralin.
2 Pounds of product shall include Benomyl and any Carbendazim production not converted to Benomyl.
3 Monitor and report as total tin.
4 Applies to purification by recrystalization portion of the process.

 $[58 \; \mathrm{FR} \; 50696, \; \mathrm{Sept.} \; 28, \; 1993, \; \mathrm{as} \; \mathrm{amended} \; \mathrm{at} \; 63 \; \mathrm{FR} \; 39443, \; \mathrm{July} \; 22, \; 1998]$

Table 4 to Part 455—BAT and NSPS EFFLUENT LIMITATIONS FOR PRI-ORITY POLLUTANTS FOR DIRECT DIS-CHARGE POINT SOURCES THAT USE END-OF-PIPE BIOLOGICAL TREAT-MENT

[Micrograms per liter (µg/l)]

Pollutant	Daily maximum shall not exceed	Monthly average shall not exceed
1,1-Dichloroethylene	25	16
1,1,1-Trichloroethane	54	21
1,2-Dichloroethane	211	68
1,2-Dichloropropane	230	153
1,2-Dichlorobenzene	163	77
1,2-trans-Dichloroethylene	54	21
1,3-Dichloropropene	44	29
1,4-Dichlorobenzene	28	15
2-chlorophenol	98	31
2,4-Dichlorophenol	112	39
2,4-Dimethylphenol	36	18
Benzene	136	37
Bromodichloromethane	380	142
Bromomethane	380	142
Chlorobenzene	28	15
Chloromethane	190	86
Cyanide (Total)	640	220
Dibromochloromethane	794	196
Dichloromethane	89	40
Ethylbenzene	108	32
Lead (Total)	690	320
Naphthalene	59	22
Phenol	26	15
Tetrachloroethylene	56	22
Tetrachloromethane	38	18
Toluene	80	26
Tribromomethane	794	196
Trichloromethane	46	21

[58 FR 50698, Sept. 28, 1993]

TABLE 5 TO PART 455—BAT AND NSPS EFFLUENT LIMITATIONS FOR PRI-ORITY POLLUTANTS FOR DIRECT DIS-CHARGE POINT SOURCES THAT DO NOT USE END-OF-PIPE BIOLOGICAL TREATMENT

[Micrograms per liter (µg/l)]

Pollutant	Daily maximum shall not exceed	Monthly average shall not exceed
1,1-Dichloroethylene	60	22
1,1,1-Trichloroethane	59	22
1,2-trans-Dichloroethylene	66	25
1,2-Dichlorobenzene	794	196
1,2-Dichloropropane	794	196
1,2-Dichloroethane	574	180
1,3-Dichloropropene	794	196
1,4-Dichlorobenzene	380	142
2,4-Dimethylphenol	47	19
Benzene	134	57
Bromodichloromethane	380	142
Bromomethane	380	142
Chlorobenzene	380	142
Chloromethane	295	110
Cyanide (Total)	640	220
Dibromochloromethane	794	196
Dichloromethane	170	36
Ethylbenzene	380	142
Lead (Total)	690	320
Naphthalene	47	19
Phenol	47	19
Tetrachloroethylene	164	52
Tetrachloromethane	380	142
Toluene	74	28
Tribromomethane	794	196
Trichloromethane	325	111

[58 FR 50698, Sept. 28, 1993]

TABLE 6 TO PART 455—PSES AND PSNS FOR PRIORITY POLLUTANTS

[Micrograms per liter (µg/l)]

Pollutant	Daily maximum shall not exceed	Monthly maximum shall not exceed
1,1-Dichloroethylene	60	22
1,1,1-Trichloroethane	59	22
1,2-trans-Dichloroethylene	66	25
1,2-Dichlorobenzene	794	196
1,2-Dichloropropane	794	196
1,2-Dichloroethane	574	180
1,3-Dichloropropene	794	196
1,4-Dichlorobenzene	380	142
Benzene	134	57
Bromodichloromethane	380	142
Bromomethane	380	142
Chlorobenzene	380	142
Chloromethane	295	110
Cyanide (Total)	640	220
Dibromochloromethane	794	196
Dichloromethane	170	36
Ethylbenzene	380	142
Lead (Total)	690	320
Naphthalene	47	19
Tetrachloroethylene	164	52
Tetrachloromethane	380	142
Toluene	74	28
Tribromomethane	794	196
Trichloromethane	325	111

[58 FR 50699, Sept. 28, 1993]

TABLE 7 TO PART 455 [RESERVED]

TABLE 8 TO PART 455—LIST OF POLLUTION PREVENTION ALTERNATIVE PRACTICES

A modification to the list of practices on this table that an individual facility must comply with to be eligible for the pollution prevention alternative is allowed with acceptable justification as listed on this table as approved by the permit writer or control authority (using BPJ/BEJ) after submittal by the facility of a request for modification. A modification, for purposes of this table, means that a facility would no longer have to perform a listed practice or would need to comply with a modified practice. However, the modification only applies to the specific practice for which the modification has been justified and to no other listed practices. Facilities are required to thoroughly discuss all modifications in the on-site compliance paperwork as described above in the limitations and standards (§455.41(c)).

1. Must use water conservation practices. These practices may include, but are not limited to using: spray nozzles or flow reduction devices on hoses, low volume/high pressure rinsing equipment, floor scrubbing machines, mop(s) and bucket(s), and counter current staged drum rinsing stations.

[Modification allowed when: Rinsing narrow transfer lines or piping where sufficient rinsing is better achieved by flushing with water.]

- 2. Must practice good housekeeping:
- (a) Perform preventative maintenance on all valves and fittings and repair leaky valves and fittings in a timely manner;
- (b) Use drip pans under any valves or fittings where hoses or lines are routinely connected and disconnected, collect for reuse when possible; and
- (c) Perform quick cleanup of leaks and spills in outdoor bulk storage or process areas.
- 3. Must sweep or vacuum dry production areas prior to rinsing with water.
- 4. Must clean interiors of dry formulation equipment with dry carrier prior to any water rinse. The carrier material must be stored and reused in future formulation of the same or compatible product or properly disposed of as solid waste.
- 5. If operating continuous overflow Department of Transportation (DOT) aerosol leak test baths—>

Must operate with some recirculation.

6. If operating air pollution control wet scrubbers—>

Must operate as recirculating scrubbers (periodic blowdown is allowed as needed). [Modification allowed when: Facility demonstrates that they would not be able to meet Resource Conservation Recovery Act or Clean Air Act (CAA) requirements.]

7. When performing rinsing of raw material drums, storage drums, and/or shipping containers that contained liquid PAI(s) and/or ingredients for the formulation of water-based products—>

Must reuse the drum/shipping container rinsate DIRECTLY into the formulation at the time of formulation; or store for use in future formulation of same or compatible product; or use a staged drum rinsing station (counter current rinsing).

[Modification allowed when: the drum/shipping container holds inert ingredient(s) only and (1) the facility can demonstrate that, after using water conservation practices, the large concentration of inert ingredient in the formulation creates more volume than could feasibly be reused; or (2) the facility can demonstrate that the concentration of the inert in the formulation is so small that the reuse would cause a formulation to exceed the ranges allowed in the Confidential Statement of Formula (CSF) (40 CFR 158.155).]

8. When performing rinsing of raw material drums, storage drums, and/or shipping containers that contained liquid PAI(s) and/or inert ingredients for the formulation of solvent-based products—>

Must reuse the drum/shipping container rinsate DIRECTLY into the formulation at the time of formulation or store for use in

future formulation of same or compatible product.

[Modification allowed when:

- (a) The drum/shipping container holds inert ingredient(s) only and: (1) The facility can demonstrate that, after using water conservation practices, the large concentration of inert ingredient in the formulation creates more volume than could feasibly be reused; or (2) the facility can demonstrate that the concentration of the inert in the formulation is so small that the reuse would cause a formulation to exceed the ranges allowed in the Confidential Statement of Formula (CSF) (40 CFR 158.155); or
- (b) Drums/shipping containers are going to a drum refurbisher/recycler who will only accept drums rinsed with water.]
- 9. Must dedicate PFPR production equipment by water-based versus solvent-based products. Dedicated solvent-based or water-based equipment may be used on a non-routine basis for non-dedicated operations; however the facility may not discharge the solvent/aqueous changeover rinsate as part of their P2 allowable discharge (i.e., the facility must achieve zero discharge of those process wastewater pollutants).

[Modification allowed when: Facility has installed and is using a solvent recovery system for the changeover rinsate (can also be used for other solvent recovery).]

10. Must store the rinsate from interior rinsing (does not include drum/shipping container rinsate) for reuse in future formulation of same or compatible product.

[Modification allowed when:

- (a) Facility has evidence of biological growth or other product deterioration over a typical storage period;
- (b) Facility has space limitations, BUT must still store rinsates for most frequently produced products;
- (c) Manufacturer (or formulator contracting for toll formulating) has directed otherwise (*i.e.*, send back to them or send for off-site disposal);
- (d) Facility is dropping registration or production of the formulation and there is no compatible formulation for reuse of the rinsates or facility can provide reasonable explanation of why it does not anticipate formulation of same or compatible formulation within the next 12 months;
- (e) Facility only performs packaging of the pesticide product from which interior rinsate is generated; or
- (f) Facility has demonstrated that it must use a detergent to clean the equipment.]

Notes

For indirect dischargers: After following the practices above, some wastewaters may require pretreatment prior to discharge to POTWs. See definition of pollution preven-

tion allowable discharge for indirect dischargers (§ 455.41(d)).

For direct dischargers: After following the practices above, all wastewaters require treatment prior to discharge directly to the nation's waters. See definition of pollution prevention allowable discharge for direct dischargers (§ 455.41(e)).

Additional information and guidance on implementing these P2 practices as well as evaluating compliance with these practices will be available in a P2 Guidance Manual for the PFPR Industry.

[61 FR 57553, Nov. 6, 1996]

Table 9 to Part 455—Group 2 Mixtures

Shaughnessey code	Chemical name ¹				
002201	Sabadilla alkaloids.				
006501	Aromatic petroleum derivative solvent.				
006602	Heavy aromatic naphtha.				
0166012	Dry ice.				
022003	Coal tar.				
025001	Coal tar neutral oils.				
025003	Creosote oil (Note: Derived from any				
020000	source).				
025004	Coal tar creosote.				
031801	Ammonium salts of C8–18 and C18' fatty acids.				
055601	BNOA.				
063501	Kerosene.				
063502	Mineral oil—includes paraffin oil from				
	063503.				
063503	Petroleum distillate, oils, solvent, or hy-				
	drocarbons; also p.				
063506	Mineral spirits.				
067003	Terpineols (unspec.).				
067205	Pine tar oil.				
067207	Ester gum.				
067302	Amines, N-coco alkyltrimethylenedi-, acetates.				
069152	Amines, coco alkyl, hydrochlorides.				
070801	Red Squill glycoside.				
071004	Cube Resins other than rotenone.				
071501	Ryania speciosa, powdered stems of.				
0726022	Silica gel.				
0726052	Silicon dioxide.				
079014	Turkey red oil.				
079021	Potassium salts of fatty acids.				
079029	Fatty alcohols (52–61% C10, 39–46% C8, 0–3% C6, 0–3% C12).				
079034	Methyl esters of fatty acids (100% C8-C12)				
079059	Fatty alcohols (54.5% C10, 45.1% C8, 0.4% C6)				
086803	Xylene range aromatic solvent				
107302	Polyhedral inclusion bodies of Douglas fir tussock moth nucl.				
107303	Polyhedral inclusion bodies of gypsy moth nucleopolyhedrosis.				
107304	Polyhedral inclusion bodies of n. sertifer				
116902	Gibberellin A4 mixt, with Gibberellin A7.				
117001	Nosema locustae.				
128888	Lactofen (ANSI).				
128934 2	Nitrogen, liquid.				
129029	Bergamot Oil.				
224600	Diethanolamides of the fatty acids of co-				
	conut oil (coded 079).				

Shaughnessey code	Chemical name ¹
505200	Isoparaffinic hydrocarbons.

¹Shaughnessey codes and chemical names are taken directly from the FATES database. Several chemical names are truncated because the chemical names listed in the FATES database are limited to 60 characters.

²EPA does not believe this PAI will persist in sanitary streams long enough to reach a POTW.

[61 FR 57554, Nov. 6, 1996]

Table 10 to Part 455—List of Appro-PRIATE POLLUTION CONTROL TECH-NOLOGIES

This table contains those pollutant control technologies, such as hydrolysis, chemical oxidation, precipitation and activated carbon adsorption, which have been used for estimating compliance costs on a PAI specific basis. In general, these treatment technologies have been determined to be effective in treating pesticide containing wastewaters in literature, in bench or pilot scale treatability studies or in the Pesticide Manufacturing effluent guidelines. These are the same technologies that are presented as part of the Universal Treatment System. However, these technologies are PAI specific and may need to be used in conjunction with one another to provide treatment for all PAIs used at a facility over a period of time. In addition, facilities may experience difficulties treating wastewaters that contain emulsions, therefore, "appropriate" treatment for emulsified wastewaters must include an emulsion breaking step. For PAIs whose technology is listed as "Pollution Prevention", the permitting authority/control authority can determine if additional treatment is necessary through best professional judgement/best engineering judgement, respectively.

LIST OF APPROPRIATE POLLUTION CONTROL TECHNOLOGIES 1

PAI name ²	PAI code ³	Shaughnessy code 4	Structural group ⁵	Treatment technology
Dicofol	001	10501	DDT	Hydrolysis.
Maleic Hydrazide	002	51501	Hydrazide	Activated Carbon.
EDB	003	42002	EDB	Activated Carbon.
Vancide TH	004	82901	s-Triazine	Activated Carbon.
1,3-Dichloropropene	005	29001	EDB	Hydrolysis.
Thenarsazine Oxide	006	12601	Organoarsenic	Precipitation.
Dowicil 75	007	17901	NR4	Activated Carbon.
Triadimefon	008	109901	s-Triazine	Activated Carbon.
Hexachlorophene	009	44901	Chlorophene	Activated Carbon.
Tetrachlorophene	010		Chlorophene	Activated Carbon.
Dichlorophene	011	55001	Chlorophene	Activated Carbon.
Dichloryos	012	84001	Phosphate	Hydrolysis.
Landrin-2	013	04001	Carbamate	Activated Carbon.
2,3,6-T, S&E or Fenac	014	82605	2.4-D	Activated Carbon.
2,4,5-T and 2,4,5-T, S&E	015	(*)	2,4-D	Activated Carbon.
2,4-D (2,4-D, S&E)	016	(*)	2.4-D	Chemical Oxidation.
2,4-DB, S&E	017	(*)	2,4-D	Activated Carbon.
Dyrene or Anilazine	017	80811	s-Triazine	Activated Carbon.
Dinocap	019	36001	Phenylcrotonate	Activated Carbon.
Dichloran or DCNA	020	31301		Activated Carbon.
	020		Aryl Halide	
Busan 90		8707	Miscellaneous Organic	Activated Carbon.
Mevinphos	022	15801	Phosphate	Hydrolysis.
Sulfallate	023		Dithiocarbamate	Activated Carbon.
Chlorfenvinphos	024	84101	Phosphate	Activated Carbon.
Cyanazine or Bladex	025	100101	s-Triazine	Activated Carbon.
Propachlor	026	19101	Acetanilide	Activated Carbon.
MCPA, S&E	027	(*)	2,4-D	Activated Carbon.
Octhilinone	028	99901	Heterocyclic	Activated Carbon.
Pindone	029	67703	Miscellaneous Organic	Activated Carbon.
Dichlorprop, S&E	030	(*)	2,4-D	Activated Carbon.
MCPP, S&E or Mecoprop	031	(*)	2,4-D	Activated Carbon.
Thiabendazole	032	60101	Heterocyclic	Activated Carbon.
Belclene 310	033	80815	s-Triazine	Activated Carbon.
Chlorprop, S&E	034	21202	2,4-D	Activated Carbon.
Busan 72 or TCMTB	035	35603	Heterocyclic	Hydrolysis.
Chlorophacinone	037	67707	Miscellaneous Organic	Activated Carbon.
Landrin-1	038		Carbamate	Activated Carbon.
Pronamide	039	101701	Chlorobenzamide	Activated Carbon.
Methiocarb or Mesurol	040	100501	Carbamate	Hydrolysis.
Propanil	041	28201	Chloropropionanilide	Activated Carbon.
Polyphase 6	042	107801	Carbamate	Activated Carbon.
Coumafuryl or Fumarin	043	86001	Coumarin	Activated Carbon.
DNOC	044		Phenol	Activated Carbon.
Metribuzin	045	101101	Triazathione	Activated Carbon.
CPA, S&E	046	(*)	2,4-D	Activated Carbon.
Οι A, ΘαL	040	' ()	1 2,7 0	Activated Calboll.

LIST OF APPROPRIATE POLLUTION CONTROL TECHNOLOGIES 1—Continued

PAI name ²	PAI code ³	Shaughnessy code 4	Structural group ⁵	Treatment technology
MCPB, S&E	047	19202	2,4-D	Activated Carbon.
Aminocarb	048		Carbamate	Hydrolysis.
Etridiazole	049	84701	Heterocyclic	Activated Carbon.
Ethoxyquin	050	55501	Quinolin	Activated Carbon.
Acephate or Orthene	052	103301	Phosphoroamidothioate	Activated Carbon.
Acifluorfen	053	114402	Benzoic Acid	Activated Carbon.
Alachlor	054	90501	Acetanilide	Activated Carbon.
Aldicarb	055	98301	Carbamate	Hydrolysis.
Allethrin	057	(*)	Pyrethrin	Activated Carbon.
Ametryn	058	80801	s-Triazine	Activated Carbon.
Amitraz	059	106201	Iminamide	Activated Carbon.
Atrazine	060	80803	s-Triazine	Hydrolysis.
Bendiocarb	061	105201	Carbamate	Hydrolysis.
Benomyl	062	99101	Carbamate	Hydrolysis.
BHC	063		Lindane	Hydrolysis.
Benzyl Benzoate	064	9501	Ester	Activated Carbon.
ethane 60	065	104201	Thiocyanate	Activated Carbon.
Bifenox	066	104301	Nitrobenzoate	Activated Carbon.
Siphenyl	067	17002	Aryl	Activated Carbon.
Bromacil (Lithium Salt)	068	(*)	Uracil	Activated Carbon.
Bromoxynil	069	(*)	Benzonitrile	Activated Carbon.
Butachlor	070		Acetanilide	Activated Carbon.
Giv-gard	071	101401	Miscellaneous Organic	Activated Carbon.
Cacodylic Acid	072	(*)	Organoarsenic	Precipitation.
Captafol	073		Phthalimide	Hydrolysis.
Captan	074	81301	Phthalimide	Hydrolysis.
Carbaryl	075	56801	Carbamate	Hydrolysis.
Carbofuran	076	90601	Carbamate	Hydrolysis.
Carbosulfan	077		Carbamate	Activated Carbon.
Chloramben	078	(*)	Benzoic Acid	Activated Carbon.
Chlordane	079	58201	Tricyclic	Activated Carbon.
Chloroneb	080	27301	Aryl Halide	Chemical Oxidation.
Chloropicrin	081	81501	Alkyl Halide	Chemical Oxidation.
Chlorothalonil	082	81901		Activated Carbon.
			Chloropropionanilide	
Chloroxuron	083			Activated Carbon.
Stirofos	084	83701	Phosphate	Hydrolysis.
Chlorpyrifos Methyl	085	59102	Phosphorothioate	Hydrolysis.
Chlorpyrifos	086	59101	Phosphorothioate	Chemical Oxidation.
Mancozeb	087	14504	Dithiocarbamate	Activated Carbon.
Bioquin (Copper)	088	24002	Organocopper	Precipitation.
Copper EDTA	089	39105	Organocopper	Precipitation.
Pydrin or Fenvalerate	090	109301	Pyrethrin	Activated Carbon.
Cycloheximide	091		Cyclic Ketone	Activated Carbon.
Dalapon	092	(*)	Alkyl Halide	Activated Carbon.
Dienochlor	093	27501	HCp	Activated Carbon.
Demeton	094		Phosphorothioate	Hydrolysis.
Desmedipham	095	104801	Carbamate	Hydrolysis.
Amobam	096		Miscellaneous Organic	Activated Carbon.
DBCP	097		EDB	Activated Carbon.
Dicamba	098	(*)	Aryl Halide	Activated Carbon.
Dichlone	099	29601	Quinone	Activated Carbon.
hiophanate Ethyl	100	103401	Carbamate	Hydrolysis.
Perthane	101	100-101	DDT	Activated Carbon.
XD	102		Dithiocarbamate	Activated Carbon.
Diazinon	102	57801	Phosphorothioate	Hydrolysis.
Diflubenzuron	103	108201	Urea	Activated Carbon.
Dimethoate	106	35001	Phosphorodithioate	Hydrolysis.
Parathion Methyl	107	53501	Phosphorothioate	Hydrolysis.
Dicrotophos	108	35201	Phosphate	Activated Carbon.
Crotoxyphos	109	58801		Activated Carbon.
CPA	110	78701	Aryl Halide	Activated Carbon.
richlorofon	111	57901	Phosphonate	Activated Carbon.
Dinoseb	112	37505	Phenol	Activated Carbon.
Dioxathion	113	37801	Phosphorodithioate	Hydrolysis.
Diphacinone	114	67701	Indandione	Activated Carbon.
Diphenamide	115	36601	Acetamide	Activated Carbon.
Diphenylamine	116	38501	Arvl Amine	Activated Carbon.
AGK 326	117	47201	Ester	Activated Carbon.
Vabonate	118	63301	Isocyanate	Chemical Oxidation.
Diuron		35505	Urea	Activated Carbon.
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LIST OF APPROPRIATE POLLUTION CONTROL TECHNOLOGIES ¹—Continued

	PAI	Shaughnessy	CONTROL TECHNOLOGIES	
PAI name ²	code 3	code 4	Structural group ⁵	Treatment technology
Dodine	121	44301	NR4	Activated Carbon.
Endosulfan	122	79401	Tricyclic	Activated Carbon.
Endothall (Endothall S&E)	123	(*)	Bicyclic	Activated Carbon.
Endrin	124	41601	Tricyclic	Activated Carbon.
Ethalfluralin	125	113101	Toluidine	Activated Carbon.
Ethion	126	58401	Phosphorodithioate	Hydrolysis.
Ethoprop	127	41101	Phosphorodithioate	Activated Carbon.
Fenamiphos	128 129	100601 28801	Phosphoroamidate	Activated Carbon. Activated Carbon.
Chlorobenzilate Butylate	130	41405	Aryl Halide Thiocarbamate	Activated Carbon.
Famphur	131	41403	Phosphorothioate	Hydrolysis.
Fenarimol	132	206600	Pyrimidine	Activated Carbon.
Fenthion or Baytex	133	53301	Phosphorothioate	Hydrolysis.
Ferbam	134	34801	Dithiocarbamate	Activated Carbon.
Fluometuron	135	35503	Urea	Activated Carbon.
Fluoroacetamide	136		Acetamide	Activated Carbon.
Folpet	137	81601	Phthalimide	Hydrolysis.
Glyphosate (Glyphosate S&E)	138	(*)	Phosphoroamidate	Chemical Oxidation.
Glyphosine	139		Phosphoroamidate	Activated Carbon.
Heptachlor	140	44801	Tricyclic	Activated Carbon.
Cycloprate	141	407004	Thiocarbamate	Activated Carbon.
Hexazinone	142	107201	s-Triazine	Activated Carbon.
Isofenphos	143	109401	Phosphoroamidothioate	Activated Carbon.
Isopropalin	144	100201	Toluidine	Activated Carbon.
Propham	145 146	97401	Carbamate	Hydrolysis.
Karabutilate Lindane	146	9001	Lindane	Hydrolysis. Activated Carbon.
Linuron	147	35506	Urea	Chemical Oxidation.
Malachite Green	149	39504	NR4	Activated Carbon.
Malathion	150	57701	Phosphorodithioate	Hydrolysis.
Maneb	151	14505	Dithiocarbamate	Activated Carbon.
Manam	152		Dithiocarbamate	Activated Carbon.
Mefluidide	153	114002	Carbamate	Activated Carbon.
Methamidophos	154	101201	Phosphoroamidothioate	Activated Carbon.
Methidathion	155	100301	Phosphorodithioate	Activated Carbon.
Methomyl	156	90301	Carbamate	Hydrolysis.
Methoprene	157	(*)	Ester	Activated Carbon.
Methoxychlor	158	34001	DDT	Hydrolysis.
Methyl Bromide	160	53201	Alkyl Halide	Activated Carbon.
Monosodium Methyl Arsenate	161	(*)	Organoarsenic	Precipitation.
Nalco D-2303	163	68102	Thiocyanate	Activated Carbon.
Quinomethionate	164	54101	Miscellaneous Organic	Activated Carbon.
Metolachlor	165	108801	Acetanilide	Activated Carbon.
Mexacarbate Metiram	166 167	14601	Carbamate Dithiocarbamate	Hydrolysis. Activated Carbon.
Monuron TCA	168	35502	Urea	Activated Carbon.
Monuron	169	35501	Urea	Activated Carbon.
Napropamide	170	103001	Carbamate	Activated Carbon.
Deet	171	80301	Toluamide	Activated Carbon.
Nabam	172	14503	Dithiocarbamate	Chemical Oxidation.
Naled	173	34401	Phosphate	Hydrolysis.
Norea	174		Urea	Activated Carbon.
Norflurazon	175	105801	Heterocyclic	Activated Carbon.
Naptalam or Neptalam	176	30703	Phthalamide	Activated Carbon.
MGK 264	177	57001	Bicyclic	Activated Carbon.
Benfluralin	178	84301	Toluidine	Activated Carbon.
Sulfotepp	179	79501	Phosphorothioate	Activated Carbon.
Aspon	180		Phosphorothioate	Activated Carbon.
Coumaphos	181	36501	Phosphorothioate	Hydrolysis.
Fensulfothion	182	32701	Phosphorothioate	Hydrolysis.
Disulfoton	183	32501	Phosphorodithioate	Hydrolysis.
Fenitrothion	184	105901	Phosphorothioate	Hydrolysis.
PhosmetAzinphos Methyl (Guthion)	185 186	59201 58001	Phosphorodithioate	Hydrolysis. Hydrolysis.
Oxydemeton Methyl Organo-Arsenic Pesticides	187 188	58702	Phosphorothioate	Activated Carbon. Precipitation.
Organo-Cadmium Pesticides	188		Organoarsenic Organocadmium	Precipitation. Precipitation
Organo-Copper Pesticides	190	(*)	Organocadmium	Precipitation.
Organo-Mercury Pesticides	190	(*)	Organomercury	Precipitation.
Organo-Tin Pesticides	192	(*)	Organotin	Precipitation.
o-Dichlorobenzene		59401	1 - 3	
		30.01	,	

LIST OF APPROPRIATE POLLUTION CONTROL TECHNOLOGIES ¹—Continued

PAI name ²	PAI code ³	Shaughnessy code 4	Structural group ⁵	Treatment technology
Oryzalin	194	104201	Sulfanilamide	Activated Carbon.
Oxamyl	195	103801	Carbamate	Hydrolysis.
Oxyfluorfen	196	111601	Miscellaneous Organic	Activated Carbon.
Bolstar	197	111501	Phosphorodithioate	Activated Carbon.
Sulprofos Oxon	198		Phosphorothioate	Hydrolysis.
Santox (EPN)	199	41801	Phosphorodithioate	Hydrolysis.
onofos	200	41701	Phosphorodithioate	Hydrolysis.
Propoxur	201	47802	Carbamate	Hydrolysis.
o-Dichlorobenzene	202	61501	Aryl Halide	Activated Carbon.
Parathion Ethyl	203	57501	Phosphorothioate	Hydrolysis.
Pendimethalin	204	108501	Benzeneamine	Activated Carbon.
PCNB	205	56502	Aryl Halide	Activated Carbon.
PCP or Penta	206	(*)	Phenol	Activated Carbon.
Perfluidone	207		Sulfonamide	Activated Carbon.
Permethrin	208	109701	Pyrethrin	Activated Carbon.
Phenmedipham	209	98701	Carbamate	Hydrolysis.
lemazine	210	64501	Heterocyclic	Activated Carbon.
Phorate	212	57201	Phosphorodithioate	Hydrolysis.
Phosalone	213	97701	Phosphorodithioate	Hydrolysis.
Phosphamidon	214	18201	Phosphate	Hydrolysis.
Picloram	215	(*)	Pyridine	Activated Carbon.
Piperonyl Butoxide	216	675Ò1	Ester	Activated Carbon.
PBED or WSCP (Busan 77)	217	69183	NR4	Activated Carbon.
Busan 85 or Arylane	218	34803	Dithiocarbamate	Chemical Oxidation.
Busan 40	219	102901	Dithiocarbamate	Chemical Oxidation.
(N Methyl	220	39002	Dithiocarbamate	Chemical Oxidation.
Metasol J26	221	101301	Miscellaneous Organic	Activated Carbon.
Profenofos	222	111401	Phosphorothioate	Activated Carbon.
Prometon or Caparol	223	80804	s-Triazine	Chemical Oxidation.
Prometryn	224	80805	s-Triazine	Activated Carbon.
Propargite	225	97601	Miscellaneous Organic	Activated Carbon.
Propazine	226	80808	s-Triazine	Activated Carbon.
Propionic Acid	227	77702	Alkyl Acid	Activated Carbon.
Previcur N	228	119301	Carbamate	Hydrolysis.
Pyrethrin Coils	229	69004	Pyrethrin	
Pyrethrum I	230	69004	Pyrethrin	Activated Carbon. Hydrolysis.
	230	69002	Pyrethrin	
Pyrethrum II				Hydrolysis.
Pyrethrins	232	(*)	Pyrethrin	Hydrolysis.
Resmethrin	233	(*) E9301	Pyrethrin	Activated Carbon.
Fenchlorphos or Ronnel	234	58301	Phosphorothioate	Hydrolysis.
Mexide or Rotenone	235	71003	Miscellaneous Organic	Activated Carbon.
DEF	236	74801	Phosphorotrithioate	Activated Carbon.
Siduron or Tupersan	237	35509	Urea	Activated Carbon.
Silvex	238	(*)	2,4-D	Activated Carbon.
Simazine	239	80807	s-Triazine	Activated Carbon.
Sodium Bentazon	240	103901	Heterocyclic	Chemical Oxidation.
Carbam-S or Sodam	241	34804	Dithiocarbamate	Chemical Oxidation.
Sodium Fluoroacetate	242	75003	Acetamide	Activated Carbon.
/apam or Metham Sodium	243	39003	Dithiocarbamate	Chemical Oxidation.
Sulfoxide	244	57101	Miscellaneous Organic	Activated Carbon.
Cycloate or Ro-Neet	245	41301	Thiocarbamate	Activated Carbon.
PrecipitationC or Eptam	246	41401	Thiocarbamate	Activated Carbon.
Molinate	247	41402	Thiocarbamate	Activated Carbon.
Pebulate or Tillman	248	41403	Thiocarbamate	Activated Carbon.
/ernolate or Vernam	249	41404	Thiocarbamate	Activated Carbon.
HPrecipitationMS	250	35604	Thiosulphonate	Activated Carbon.
Bensulide or Betesan	251	9801	Phosphorodithioate	Activated Carbon.
Febuthiuron	252	105501	Urea	Activated Carbon.
emephos	253	59001	Phosphorothioate	Hydrolysis.
erbacil	254	12701	Uracil	Activated Carbon.
erbufos or Counter	255	105001	Phosphorodithioate	Activated Carbon.
erbuthylazine	256	80814	s-Triazine	Activated Carbon.
erbutryn	257	80813	s-Triazine	Activated Carbon.
etrachlorophenol	258	63004	Phenol	Activated Carbon.
Dazomet	259	35602	Heterocyclic	Chemical Oxidation.
hiophanate Methyl	260	102001	Carbamate	Hydrolysis.
hiram	261	79801		Activated Carbon.
			Dithiocarbamate	Activated Carbon.
Toxaphene	262	80501	Bicyclic	
Merphos	263	74901	Phosphorotrithioate	Hydrolysis.
Frifluralin or Treflan Varfarin	264	36101	Toluidine	Activated Carbon.
	265	(*)	Coumarin	Activated Carbon.

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LIST OF APPROPRIATE POLLUTION CONTROL TECHNOLOGIES ¹—Continued

PAI name ²	PAI code ³	Shaughnessy code 4	Structural group ⁵	Treatment technology
Zinc MBT	266	51705	Organozinc	Precipitation.
Zineb	267	14506	Dithiocarbamate	Activated Carbon.
Ziram	268	34805	Dithiocarbamate	Activated Carbon.
Triallate	269	78802	Thiocarbamate	Activated Carbon.
Phenothrin	270	69005	Pyrethrin	Activated Carbon.
Tetramethrin	271	69003	Pyrethrin	Activated Carbon.
Non-272 PAIs	272	18301	Carbamate	Hydrolysis.
OFC 11		13	Alkyl Halide	Activated Carbon.
OFC 12		14	Alkyl Halide	Activated Carbon.
Polyethylene		152	Polymer	Activated Carbon.
Acrolein		701	Alcohol	Activated Carbon.
Dimethyl-m-dioxan-4-ol acetate		1001	Heterocyclic	Activated Carbon.
		1509	Alcohol	Activated Carbon.
Dodecyl alcohol				
Tetradecyl alcohol		1510	Alcohol	Activated Carbon.
Rosin amine D acetate		4201	Alkyl Acid	Activated Carbon.
Dihydroabietylamine acetate		4213	Alkyl Acid	Activated Carbon.
mitrole		4401	Heterocyclic	Activated Carbon.
Allyl isothiocyanate		4901	Thiocyanate	Activated Carbon.
AMS		5501	Inorganic	Pollution Prevention.
Calcium sulfate		5602	Inorganic	Pollution Prevention.
Fartar emetic		6201	Inorganic	Pollution Prevention.
Diphenylstibene 2-		6202	Aryl	Activated Carbon.
ethylhexanoate.		3202		, iourated outpoin.
Streptomycin		6306	Heterocyclic	Activated Carbon.
Oxytetracycline hydrochloride		6308	Phthalamide	Activated Carbon.
Streptomycin sesquisulfate		6310	Heterocyclic	Activated Carbon.
Neomycin sulfate		6313	Benzeneamine	Activated Carbon.
Antimycin A		6314	Heterocyclic	Activated Carbon.
Calcium oxytetracycline		6321	Phthalamide	Activated Carbon.
Espesol 3A		6601	Phosphorothioate	Activated Carbon.
Arsenic acid		6801	Metallic	Precipitation.
Arsenic acid anhydride		6802	Metallic	Precipitation.
Arsenous acid anhydride		7001	Metallic	Precipitation.
			Metallic	
Copper oxychloride		8001		Precipitation.
Basic cupric sulfate		8101	Metallic	Precipitation.
Basic copper III—zinc sulfate		8102	Metallic	Precipitation.
complex (Declare copper and.				
Bromophos		8706	Phosphorothioate	Activated Carbon.
Benzyl bromoacetate		8710	Benzoic acid	Activated Carbon.
Benzoic acid		9101	Benzoic acid	Activated Carbon.
Benzyl diethyl ((2,6-		9106	NR4	Activated Carbon.
xylylcarbamoyl)methyl) am-				
monium benzoate.				
		0500	And	Activated Carbon
Benzyl alcohol		9502	Aryl	Activated Carbon.
3-Chloro-p-toluidine hydro-		9901	Chloropropionanilide	Activated Carbon.
chloride.			l _	1
Butoxyethoxy)ethyl thiocyanate		10002	Thiocyanate	Activated Carbon.
2-Naphthol		10301	Phenol	Activated Carbon.
Boric acid		11001	Inorganic	Pollution Prevention.
Barium metaborate		11101	Inorganic	Pollution Prevention.
Boron sodium oxide		11103	Inorganic	Pollution Prevention.
(B8Na2O13), tetrahydrate				
(12280–03–4).				
		11104	Inorganic	Pollution Prevention.
Sodium metaborate (NaBO2)		11104		
Boron sodium oxide		11107	Inorganic	Pollution Prevention.
(B8Na2O13) (12008-41-2).			1	1
Boron sodium oxide		11110	Inorganic	Pollution Prevention.
(B4Na2O7), pentahydrate				
(12179-04-3).				
Boron sodium oxide (B4Na2O7)		11112	Inorganic	Pollution Prevention.
(1330–43–4).		· · · · · · · · · · · · · · · · · · ·		
Polybutene		11402	Polymer	Activated Carbon.
Polyisobutylene		11403	Polymer	Activated Carbon.
Butyl cellosolve		11501	Alcohol	Activated Carbon.
Butoxypolypropylene glycol		11901	Polymer	Activated Carbon.
Neburon (ANSI)		12001	Chloropropionanilide	Activated Carbon.
Methyltrimethylenedioxy)bis(4-		12401	Bicyclic	Activated Carbon.
methyl-1,3,2-dioxaborinane).		,	'	
	1		Bicyclic	Activated Carbon.
Oxybis(4,4,6-trimethyl-1,3,2-		12402		

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LIST OF APPROPRIATE POLLUTION CONTROL TECHNOLOGIES ¹—Continued

PAI name 2	
Lead arsenate, basic	inology
Lead arsenate, basic Lead arsenate Sodium arsenate Sodium arsenite Precipitation. Sodium arsenite Precipitation Sodium arsenite Precipitation Sodium arsenite Solicite Solicyclic Solicyclic Solicyclic Solicyclic Solicyclic Activated Carbon Activated Carbon Solicite Solic	
Sodium arsenate 13505 Metallic Precipitation. Pollution Prevention. Activated Carbon disulfide Precipitation. P	
Sodium arsenate 13505 Metallic Precipitation. Pollution Prevention. Activated Carbon disulfide Precipitation. P	
Potassium bromide	
Potassium bromide	
Camphor Carbon disulfide	
Carbon disulfide	
Carbon tetrachloride Barban (ANSI) Barban (ARSI) Barban (ARSI) Barban (ARSI) Barban (ARSI) Barban (Arbivated Carbon. Crivated Carbon. Barban (Arbivated Carbon. Barban (Arbivated Carbon. Barban (Arbivated Carbon. Barban (Arbivated Carbon. Barban (Barban (Barban) Barban (Barban (Ba	
Barban (ANSI) Chloro-2-propenyl)-3,5,7,triaza- 1-azo niatricyclo(3,3.1.1)sup. Chlormequat chloride Chloromethoxypropylmercuric acetate. Allidochlor Chromic acid Cresol (unspec) (Cresylic acid) Cresol (unspec) (Cresylic acid) Cropper (metallic) Copper ammonium carbonate Copper carbonate Copper chloride hydroxide (Cu2Cl(OH)3). Copper chloride sulfate Copper (from triethanolamine complex). Copper as metallic (in the form of chelates of copper cultivalic copper—ethylenediamine complex). Copper (Joxide Copper (Joxide) Copper sulfate (anhydrous) Copper(i) oxide (arbon. Activated Carbon. NR4 Metallic Precipitation. Activated Carbon. NR4 Metallic Precipitation. Activated Carbon. Activated Carbon. Activated Carbon. Metallic Precipitation. Activated Carbon. Metallic Precipitation. Activated Carbon. Activated Carbon. Activated Carbon. Activated Carbon. Activated Carbon. Metallic Precipitation. Activated Carbon. Metallic Precipitation. Activated Carbon. Activated Carbon. Metallic Precipitation. Activated Carbon. Metallic Precipitation. Activated Carbon. Activated Carbon. Metallic Precipitation. Activated Carbon. Activated Carbon. Activated Carbon. Metallic Precipitation. Activated Carbon. Metallic Precipitation. Activated Carbon. Activated Carbon. Metallic Precipitation. Activated Carbon. Activated Carbon. Activated Carbon. Activated Carbon. Acti	
Chloro-2-propenyl)-3,5,7,triaza- 1-azo niatricyclo(3.3.1.1)sup. Chlormequat chloride	
Chloromethoxypropylmercuric acetate. 18401 Metallic Precipitation. Allidochlor 19301 Acetanilide Activated Carbon. Chromic acid 21101 Metallic Precipitation. Cresol (unspec) (Cresylic acid) 22101 Phenol Activated Carbon. Cresol 22102 Phenol Activated Carbon. Copper (metallic) 22501 Metallic Precipitation. Copper ammonium carbonate 22703 Metallic Precipitation. Copper armonium carbonate 22901 Metallic Precipitation. Copper arbonate 22901 Metallic Precipitation. Copper hydroxide 23401 Metallic Precipitation. Copper hydroxide 23401 Metallic Precipitation. Copper oxychloride sulfate 23501 Metallic Precipitation. Copper sulfate 24401 Metallic Precipitation. Copper (from triethanolamine complex). Activated Carbon. Precipitation. Copper as metallic (in the form of chelates of copper citrat). Activated	
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Cresol	
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Copper carbonate 22901 Metallic Precipitation. Copper hydroxide 23401 Metallic Precipitation. Copper chloride hydroxide (Cu2Cl(OH)3). Copper oxychloride sulfate 23501 Metallic Precipitation. Copper sulfate Metallic Precipitation. Copper sulfate Metallic Precipitation. Metallic Precipitation. Metallic Precipitation. Copper sulfate Metallic Precipitation. Metallic Precipitation. Metallic Precipitation. Metallic Precipitation. Precipitation. Copper as metallic (in the form of chelates of copper citrat). Copper as elemental from copper—ethylenediamine complex. Copper sulfate (anhydrous) 24408 Metallic Precipitation. Metallic Precipitation. Metallic Precipitation. Metallic Precipitation. Precipitation.	
Copper hydroxide 23401 Metallic Precipitation. Copper chloride hydroxide (Cu2Cl(OH)3). Copper oxychloride sulfate 23503 Metallic Precipitation. Copper sulfate 24401 Metallic Precipitation. Metallic Precipitation. Precipitation. Copper (from triethanolamine complex). Copper as metallic (in the form of chelates of copper citrat). Copper as elemental from copper—ethylenediamine complex. Copper sulfate (anhydrous) 24408 Metallic Precipitation.	
Copper chloride hydroxide (Cu2Cl(OH)3). 23501 Metallic Precipitation. Copper oxychloride sulfate 23503 Metallic Precipitation. Copper sulfate 24401 Metallic Precipitation. Copper (from triethanolamine complex). 24403 Metallic Precipitation. Copper as metallic (in the form of chelates of copper citrat). 24405 Metallic Precipitation. Copper as elemental from copper—ethylenediamine complex. 24407 Metallic Precipitation. Copper sulfate (anhydrous) 24408 Metallic Precipitation. Copper(I) oxide 25601 Metallic Precipitation.	
Copper sulfate 24401 Metallic Precipitation. Copper (from triethanolamine complex). Copper as metallic (in the form of chelates of copper citrat). Copper as elemental from copper—ethylenediamine complex. Copper sulfate (anhydrous) 24407 Metallic Precipitation. Metallic Precipitation. Metallic Precipitation. Precipitation. Precipitation. Precipitation. Precipitation. Precipitation. Precipitation. Precipitation. Precipitation.	
Copper sulfate 24401 Metallic Precipitation. Copper (from triethanolamine complex). Copper as metallic (in the form of chelates of copper citrat). Copper as elemental from copper—ethylenediamine complex. Copper sulfate (anhydrous) 24407 Metallic Precipitation. Metallic Precipitation. Metallic Precipitation. Precipitation. Precipitation. Precipitation. Precipitation. Precipitation. Precipitation. Precipitation. Precipitation.	
Copper (from triethanolamine complex). Copper as metallic (in the form of chelates of copper citrat). Copper as elemental from copper—ethylenediamine complex. Copper sulfate (anhydrous) Copper(I) oxide Metallic Metallic Metallic Precipitation. Precipitation. Precipitation. Metallic Precipitation. Precipitation. Precipitation. Precipitation. Precipitation.	
Copper as metallic (in the form of chelates of copper citrat). Copper as elemental from copper—ethylenediamine complex. Copper sulfate (anhydrous) 24407 Metallic Precipitation. Metallic Precipitation. Metallic Precipitation. Precipitation. Precipitation. Precipitation. Precipitation.	
per—ethylenediamine complex. 24408 Metallic Precipitation. Copper sulfate (anhydrous) 25601 Metallic Precipitation.	
Copper sulfate (anhydrous) 24408 Metallic Precipitation. Copper(I) oxide 25601 Metallic Precipitation.	
Copper(I) oxide 25601 Metallic Precipitation.	
Cuprous thiocyanate 25602 Metallic Precipitation.	
Cyclohexane	
Cyclohexanone	
Dichlobenil 27401 Chloropropionanilide Activated Carbon.	
Diquat dibromide	
Dimethrin (ANSI) Activated Carbon.	
Dicapthon	
Ziram, cyclohexylamine complex. 34806 Dithiocarbamate	
Butyl 34807 Dithiocarbamate	
te.	
Daminozide	
Bis(trichloromethyl) sulfone 35601 Miscellaneous Organic Activated Carbon	
Bis(bromoacetoxy)-2-butene 35605 Alkyl Halide Activated Carbon.	
Dazomet, sodium salt	
Butonate	
Trifluoro-4-nitro-m-cre- 6201 Phenol Activated Carbon.	
sol(**)=alpha,alpha	
Triethanolamine dinoseb (2- sec-Butyl-4,6-dinitrophenol). Activated Carbon.	
Sodium 4,6-dinitro-o-cresylate	
Dinitrophenol	
Activated Carbon. Mikanol* amine dinoseb (2-sec- butyl-4,6-dinitrophenol) *(s.	
Sodium dinoseb (2-sec-Butyl	
Nitrilotriacetic acid, trisodium	
asii. Trisodium(2-hydroxy	
diaminetriacetate. Ammonium ethylenediamine- tetraacetate. 39117 Acetamide	

Environmental Protection Agency

LIST OF APPROPRIATE POLLUTION CONTROL TECHNOLOGIES ¹—Continued

LIST OF APP	HOPHIAI	E POLLUTION	CONTROL TECHNOLOGIES	·—continued
PAI name ²	PAI code ³	Shaughnessy code 4	Structural group ⁵	Treatment technology
Pentasodium		39120	Acetanilide	Activated Carbon.
diethylenetriaminepentaaceta-				
te.				
Ethyl-1,3-hexanediol		41001	Alcohol	Activated Carbon.
Ethylene		41901	Miscellaneous Organic	Pollution Prevention.
EDC		42003	EDB	Activated Carbon.
Methylene chloride		42004	Alkyl Halide	Activated Carbon.
Methoxyethanol		42202	Alcohol	Activated Carbon.
Ethylene glycol		42203	Alcohol	Activated Carbon.
Butylene glycol		42205	Alcohol	Activated Carbon.
Ethylene oxide		42301	Miscellaneous Organic	Pollution Prevention.
Copper(II) oxide		42401	Metallic	Precipitation.
Cuprous and cupric oxide,		42403	Metallic	Precipitation.
mixed.				
Propylene oxide		42501	Miscellaneous Organic	Pollution Prevention.
Formaldehyde		43001	Miscellaneous Organic	Pollution Prevention.
Paraformaldehyde		43002	Polymer	Activated Carbon.
Bis(2-butylene) tetrahydro-2-		43302	Tricyclic	Activated Carbon.
furaldehyde.				
Giberellic acid		43801	Tricyclic	Activated Carbon.
Potassium gibberellate		43802	Tricyclic	Activated Carbon.
Glutaral		43901	Alcohol	Activated Carbon.
Copper citrate		44005	Metallic	Precipitation.
Methyl nonyl ketone		44102	Miscellaneous Organic	Activated Carbon.
Methyl-2-pentanone		44105	Miscellaneous Organic	Activated Carbon.
Monosodium 2,2'-methylenebis		44902	Chlorophene	Activated Carbon.
(3,4,6-trichlorophenate).				
Potassium 2,2'-methylenebis		44904	Chlorophene	Activated Carbon.
(3,4,6-trichlorophenate).		11001	Childrephiche	/tolivated Carbon.
Hexachloroepoxyoctahydro-		45001	Tricyclic	Activated Carbon.
		43001	THOYONG	Activated Carbon.
endo, exo-				
dimethanoaphthalene 85%.		45500		
Chlorhexidine diacetate		45502	Chloropropionanilide	Activated Carbon.
Hydrocyanic acid		45801	Inorganic	Activated Carbon.
Hydroxyethyl octyl sulfide		46301	Alcohol	Activated Carbon.
Heptadecenyl-2-(2-hydroxy-		46608	NR4	Activated Carbon.
ethyl)-2-i midazolinium chlo-				
ride.				
-lydroxyethyl)-2-alkyl-2-imid-		46609	NR4	Activated Carbon.
azoline (as in fatty acids of t.				
IBA		46701	Bicyclic	Activated Carbon.
Dihydropyrone		46801	Cyclic ketone	Activated Carbon.
Butoxypolypropoxypolyethoxyet-		46901	Polymer	Activated Carbon.
hanol-iodine complex.				
Polyethoxypolypropoxyethanol-		46904	Polymer	Activated Carbon.
iodine complex.			,	
Use code no. 046904		46909	Polymer	Activated Carbon.
(polyethoxypolypropoxy eth-			', '	
anol-iodine complex).				
lodine-potassium iodide com-		46917	Inorganic	Pollution Prevention.
plex.		70017		
Alkyl-omega-		46921	Polymer	Activated Carbon.
hydroxypoly(oxyethylen e)-io-		40321	1 Oly11101	/ Notivated Carbon.
dine complex *(100%.		40004	Metallia	Bracinitation
Lead acetate		48001	Metallic	Precipitation.
Nickel sulfate hexahydrate		50505	Metallic	Precipitation.
Maleic hydrazide,		51502	Hydrazide	Activated Carbon.
diethanolamine salt.			l	1
Maleic hydrazide, potassium		51503	Hydrazide	Activated Carbon.
salt.				
Sodium 2-		51704	Heterocyclic	Activated Carbon.
mercaptobenzothiolate.				
Mercuric chloride		52001	Metallic	Precipitation.
Mercurous chloride		52201	Metallic	Precipitation.
Metaldehyde		53001	Miscellaneous Organic	Activated Carbon.
Methylated naphthalenes		54002	Aryl	Activated Carbon.
			Chlorophene	Activated Carbon.
Sodium 2,2'-methylenebis(4-		55005	Chilorophierie	Activated Carbon.
chlorophenate).		FF00.1	A 4	A - this rate of O - other and
Naphthalene		55801	Aryl	Activated Carbon.
NAD		56001	Benzoic Acid	Activated Carbon.
NAA (1-Naphthaleneacetic		56002	Benzoic Acid	Activated Carbon.
Acid).	1	l	I	I

LIST OF APPROPRIATE POLLUTION CONTROL TECHNOLOGIES ¹—Continued

LIST OF AFF			CONTROL TECHNOLOGIES	Johnnaca
PAI name ²	PAI code ³	Shaughnessy code ⁴	Structural group ⁵	Treatment technology
Potassium 1-		56003	Benzoic Acid	Activated Carbon.
naphthaleneacetate.				
Ammonium 1-		56004	Benzoic Acid	Activated Carbon.
naphthaleneacetate.				
Sodium 1-naphthaleneacetate		56007	Benzoic Acid	Activated Carbon.
Ethyl 1-naphthaleneacetate		56008	Benzoic Acid	Activated Carbon.
Nitrophenol		56301	Phenol	Activated Carbon.
Nicotine		56702	Pyridine	Activated Carbon.
Carbophenothion (ANSI)		58102	Phosphorodithioate	Activated Carbon.
Sodium 5-chloro-2-(4-chloro-2-		58802	Aryl Halide	Activated Carbon.
(3-(3,4-dichlorophenyl)ureido).				
Monocrotophos		58901	Phosphate	Activated Carbon.
Chlordimeform		59701	Chloropropionanilide	Activated Carbon.
Chlordimeform hydrochloride		59702	Chloropropionanilide	Activated Carbon.
Thiabendazole hypophosphite		60102	Hydrazide	Activated Carbon.
Hexachlorobenzene		61001	Lindane	Activated Carbon.
Butyl paraben		61205	Phenol	Activated Carbon.
Paraquat dichloride		61601	Pyridine	Activated Carbon.
Chloro-4-phenylphenol		62206	Chlorophene	Activated Carbon.
Chloro-2-phenylphenol		62208	Chlorophene	Activated Carbon.
Chloro-2-biphenylol, potassium		62209	Chlorophene	Activated Carbon.
salt.				
Chloro-2-phenylphenol		62210	Chlorophene	Activated Carbon.
Chloro-2-phenylphenol, potas-		62211	Chlorophene	Activated Carbon.
sium salt.				
Sodium phenate		64002	Phenol	Activated Carbon.
Butylphenol, sodium salt		64115	Phenol	Activated Carbon.
Ammonium 2-phenylphenate		64116	Phenol	Activated Carbon.
Chloro-2-cyclopentylphenol		64202	Chlorophene	Activated Carbon.
Bithionolate sodium		64203	Chlorophene	Activated Carbon.
Chloro-3-cresol		64206	Chlorophene	Activated Carbon.
Sodium 2,4,5-trichlorophenate		64217	Chlorophene	Activated Carbon.
Aluminum phosphide		66501	Inorganic	Pollution Prevention.
Phosphorus		66502	Inorganic	Pollution Prevention.
Magnesium phosphide		66504	Inorganic	Pollution Prevention.
1-(Alkyl*amino)-3-		67301	Iminamide	Activated Carbon.
aminopropane* (Fatty acids				
of coconut oil).				
Alkyl* amino)-3-aminopropane		67305	Iminamide	Activated Carbon.
*(53%C12, 19%C14,				
8.5%C16, 7%C8.				
Alkyl*amino)-3-aminopropane	l	67307	Iminamide	Activated Carbon.
benzoate*(fatty acids of coco-		0.00.		/ touvalou ourson
nut.				
Alkyl* dipropoxyamine *(47%		67308	Iminamide	Activated Carbon.
C12, 18% C14, 10% C18,		0,000		
9% C10, 8.				
Alkyl*amino)-3-aminopropane		67309	Iminamide	Activated Carbon.
hydroxyacetate* (acids of co-		07009		, valou Galboii.
conut.				
Alkyl* amino)-3-aminopropane		67310	Iminamide	Activated Carbon.
		0/310	IIIIIIaiiiide	Activated Carbon.
*(42%C12, 26%C18, 15%C14, 8%C16.				
Alkyl*amino)-3-aminopropane		67313	Iminamide	Activated Carbon.
diacetate* (fatty acids of co-		0/313		Activated Carbon.
conut.				
Octadecenyl-1,3-		67316	Acetamide	Activated Carbon.
		0/310	Acetailine	Activated Carbon.
propanediamine				
monogluconate. Alkyl* amine acetate *(5%C8,		67329	Iminamide	Activated Carbon.
		6/329		Activated Carbon.
	l			
7%C10, 54%C12, 19%C14,			1	Activated Carbon.
7%C10, 54%C12, 19%C14, 8%C16,.		07701		
7%C10, 54%C12, 19%C14, 8%C16,. Pindone sodium salt		67704	Indandione	
7%C10, 54%C12, 19%C14, 8%C16,. Pindone sodium salt Diphacinone, sodium salt		67705	Indandione	Activated Carbon.
7%C10, 54%C12, 19%C14, 8%C16. Pindone sodium salt Diphacinone, sodium salt Isovaleryl-1,3-indandione, cal-				
7%C10, 54%C12, 19%C14, 8%C16, Pindone sodium salt		67705 67706	IndandioneIndandione	Activated Carbon. Activated Carbon.
7%C10, 54%C12, 19%C14, 8%C16,. Pindone sodium salt Diphacinone, sodium salt Isovaleryl-1,3-indandione, cal- cium salt. Methyl isothiocyanate		67705 67706 68103	Indandione	Activated Carbon. Activated Carbon. Pollution Prevention.
7%C10, 54%C12, 19%C14, 8%C16,. Pindone sodium salt Diphacinone, sodium salt Isovaleryl-1,3-indandione, cal- cium salt. Methyl isothiocyanate		67705 67706 68103 68302	Indandione Indandione Thiocyanate Inorganic	Activated Carbon. Activated Carbon. Pollution Prevention. Pollution Prevention.
7%C10, 54%C12, 19%C14, 8%C16. Pindone sodium salt Diphacinone, sodium salt Isovaleryl-1,3-indandione, cal-		67705 67706 68103	Indandione Indandione Thiocyanate Inorganic Inorganic	Activated Carbon. Activated Carbon. Pollution Prevention. Pollution Prevention. Pollution Prevention.

LIST OF APPROPRIATE POLLUTION CONTROL TECHNOLOGIES 1—Continued

LIST OF APPROPRIATE POLLUTION CONTROL TECHNOLOGIES 1—Continued					
PAI name ²	PAI code ³	Shaughnessy code 4	Structural group 5	Treatment technology	
Alkenyl* dimethyl ethyl ammonium bromide *(90%C18', 10%C16').		69102	NR4	Activated Carbon.	
Alkyl*-N-ethyl morpholinium ethyl sulfate *(92%C18, 8%C16).		69113	Heterocyclic	Activated Carbon.	
Alkyl* isoquinolinium bromide *(50% C12, 30% C14, 17% C16, 3).		69115	Quinolin	Activated Carbon.	
Alkyl* methyl isoquinolinium chloride *(55%C14, 12%C12, 17%C).		69116	Quinolin	Activated Carbon.	
Cetyl trimethyl ammonium bro- mide.		69117	NR4	Activated Carbon.	
Cetyl pyridinium bromide Dodecyl dimethyl benzyl ammo-		69118 69127	Pyridine	Activated Carbon. Activated Carbon.	
nium naphthenate. Alkyl* dimethyl ethylbenzyl am- monium cyclohexylsulfamate		69135	NR4	Activated Carbon.	
(5). Alkyl-N-ethyl morpholinium ethyl sulfate *(66%C18,		69147	Heterocyclic	Activated Carbon.	
25%C16). Alkyl* trimethyl ammonium bromide *(95%C14, 5%C16).		69153	NR4	Activated Carbon.	
Benzyl((dodecylcarbamoyl) methyl)di methyl ammonium		69159	NR4	Activated Carbon.	
chloride. Cetyl pyridinium chloride		69160	Pyridine	Activated Carbon.	
Alkyl* dimethyl ethyl ammonium		69186	NR4	Activated Carbon.	
bromide *(85%C16, 15%C18). Cetyl-N-ethylmorpholinium ethyl		69187	Heterocyclic	Activated Carbon.	
sulfate. Use code no. 069102 (Alkenyl*		69198	NR4	Activated Carbon.	
Dimethyl Ethyl Ammonium bromide).					
p-Aminopyridine		69201	Pyridine	Activated Carbon.	
Nitrapyrin (ANSI)Alkyl pyridines		69203 69205	Pyridine	Activated Carbon. Activated Carbon.	
Pyrazon (ANSI)		69601	Heterocyclic	Activated Carbon.	
Capsaicin (in oleoresin of cap-		70701	Phenol	Activated Carbon.	
sicum).					
Ryanodine		71502	Tricyclic	Activated Carbon.	
Silver		72501	Inorganic	Pollution Prevention.	
Silver chloride		72506	Inorganic	Pollution Prevention.	
Silver thiuronium acrylate co- polymer.		72701	Polymer	Activated Carbon.	
Sodium chlorate		73301	Inorganic	Pollution Prevention.	
Calcium cyanide		74001	Inorganic	Pollution Prevention.	
Sodium cyanide		74002	Inorganic	Pollution Prevention.	
Cryolite		75101	Inorganic	Pollution Prevention.	
Sodium fluoride		75202	Inorganic	Pollution Prevention.	
Ammonium fluosilicate Sodium fluosilicate		75301 75306	Inorganic	Pollution Prevention. Pollution Prevention.	
Potassium iodide		75306 75701	Inorganic	Pollution Prevention. Pollution Prevention.	
Potassium tetrathionate		75903	Inorganic	Pollution Prevention.	
Potassium nitrate		76103	Inorganic	Pollution Prevention.	
Sodium nitrate		76104	Inorganic	Pollution Prevention.	
Sodium nitrite		76204	Inorganic	Pollution Prevention.	
Benzenesulfonamide, N-chloro-, sodium salt. Salicyclic acid		76501 76202	Sulfonamide Benzoic Acid	Activated Carbon. Activated Carbon.	
Ethoxyethyl p- methoxycinnamate.		76604	Aryl	Activated Carbon.	
Calcium polysulfide		76702	Polymer	Activated Carbon.	
Strychnine		76901	Tricyclic	Activated Carbon.	
Strychnine sulfate		76902	Tricyclic	Activated Carbon.	
Niclosamide		77401	Chlorobenzamide	Activated Carbon.	
Dibromosalicylamilide Tribromsalan	l	77402	Chlorobenzamide	Activated Carbon	
Dibromosalicylanilide		77404 77405		Activated Carbon. Activated Carbon.	
DIDIOITIOSAIICYIAIIIIUE		11405	OHIOTODETIZATITICE	nouvaleu Calbull.	

LIST OF APPROPRIATE POLLUTION CONTROL TECHNOLOGIES 1—Continued

PAI name ²	PAI code ³	Shaughnessy code 4	Structural group 5	Treatment technology
Chlorosalicylanilide		77406	Chlorobenzamide	Activated Carbon.
Sulfur		77501	Inorganic	Pollution Prevention.
Sulfaquinoxaline		77901	Sulfanilamide	Activated Carbon.
Sulfacetamide		77904	Sulfanilamide	Activated Carbon.
Sulfuryl fluoride		78003	Inorganic	Pollution Prevention.
Sodium bisulfite		78201	Inorganic	Pollution Prevention.
Tetrachloroethylene		78501	EDB	Activated Carbon.
Ethoxylated isooctylphenol		79004	Phenol	Activated Carbon.
_auric diethanolamide		79018	Acetanilide	Activated Carbon.
Friethanolamine oleate		79025	NR4	Activated Carbon.
Dioctyl sodium sulfosuccinate		79027	Thiosulfonate	Activated Carbon.
Jse code no. 069179		79036	Miscellaneous Organic	Activated Carbon.
(alkyl*mono-ethanolamide).				
Alkyl* diethanolamide		79045	Miscellaneous Organic	Activated Carbon.
*(70%C12, 30%C14).				
Tetradecyl formate		79069	Alkyl Acid	Activated Carbon.
Polyoxyethylene sorbitol oleate-		79075	Polymer	Activated Carbon.
laurate.			l	l <u></u>
Polyethoxylated stearylamine		79094	Polymer	Activated Carbon.
Capric diethanolamide		79099	Acetanilide	Activated Carbon.
Calcium thiosulfate		80101	Inorganic	Pollution Prevention.
Ammonium thiosulfate		80103	Inorganic	Pollution Prevention.
Thymoxydichloroacetic acid		80401	Benzoic Acid	Activated Carbon.
Гhymol		80402	Phenol	Activated Carbon.
Sodium trichloroacetate		81001	Alkyl Halide	Activated Carbon.
Frichloroacetic acid		81002	Alkyl Halide	Activated Carbon.
Hexahydro-1,3,5-tris(2-hydroxy-		83301	s-Triazine	Activated Carbon.
ethyl)-s-triazine.				
2-(Hydroxymethyl)-2-nitro-1,3- propanediol.		83902	Alcohol	Activated Carbon.
Bomyl		84201	Phosphate	Activated Carbon.
Furpentine		84501	Miscellaneous Organic	Activated Carbon.
Chloro-1-(2,5-		84901	Phosphorothioate	Activated Carbon.
dichlorophenyl)vinyl) O,O-		04301	Thosphorotinoate	Activated Carbon.
diethyl phosphorothi.		07001	Matallia	Draginitation
Zinc chloride		87801	Metallic	Precipitation.
Zinc 2-pyridinethiol-1-oxide		88002	Metallic	Precipitation.
Hydroxy-2-(1H)-pyridinethione, sodium salt.		88004	Pyridine	Activated Carbon.
		88005	Pyridine	Activated Carbon.
Omadine TBAO				
Zinc naphthenate		88301	Metallic	Precipitation.
Zinc oxide		88502	Metallic	Precipitation.
Zinc phosphide (Zn3P2)		88601	Metallic	Precipitation.
Zinc phenol sulfonate		89002	Metallic	Precipitation.
Zinc sulfate, basic		89101	Metallic	Precipitation.
Dimetilan		90101	Carbamate	Activated Carbon.
Carboxin		90201	Heterocyclic	Activated Carbon.
Oxycarboxin		90202	Heterocyclic	Activated Carbon.
Benzocaine		97001	Benzeneamine	Activated Carbon.
Piperalin		97003	2,4-D	Activated Carbon.
Tetracaine hydrochloride		97005	Benzeneamine	Activated Carbon.
Formetanate hydrochloride		97301	Toluamide	Activated Carbon.
Azacosterol HCI		98101	Tricyclic	Activated Carbon.
Jse code no. 039502 (gentian		98401	NR4	Activated Carbon.
violet).				
Ammonium alum		98501	Inorganic	Pollution Prevention.
Bismuth subgallate		98601	Metallic	Precipitation.
Chlorflurenol, methyl ester		98801	Aryl Halide	Activated Carbon.
Benzisothiazolin-3-one		98901	Heterocyclic	Activated Carbon.
Methyl 2-		99102	Carbamate	Activated Carbon.
benzimidazolecarbamate				
phosphate.				
Ethephon		99801	Phosphate	Activated Carbon.
Pentanethiol		100701	Miscellaneous Organic	Activated Carbon.
Nitrobutyl)morpholine		100801	Heterocyclic	Activated Carbon.
Ethyl-2-		100802	Heterocyclic	Activated Carbon.
nitrotrimethylen-		100002		
e)dimorpholine.				
			I .	I .
		101000	Thiosulfonate	Activated Carbon
Folyl diiodomethyl sulfonesobutyric acid		101002 101502	Thiosulfonate	Activated Carbon. Activated Carbon.

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LIST OF APPROPRIATE POLLUTION CONTROL TECHNOLOGIES ¹—Continued

PAI name ²	PAI code ³	Shaughnessy code 4	Structural group ⁵	Treatment technology
Polyethoxylated oleylamine		101901	Acetamide	Activated Carbon.
Dinitramine (ANSI)		102301	Nitrobenzoate	Activated Carbon.
Phenylethyl propionate		102601	Phenylcrotonate	Activated Carbon.
Eugenol		102701	Phenol	Activated Carbon.
ricosene		103201	Miscellaneous Organic	Activated Carbon.
ricosene		103202	Miscellaneous Organic	Activated Carbon.
Sodium 1,4',5'-trichloro-2'-		104101	2,4-D	Activated Carbon.
(2,4,5- trichlorophenoxy)methanes.				
Hexahydro-1,3,5-tris(2- hydroxypropyl)-s-triazine.		105601	s-Triazine	Activated Carbon.
Methazole		106001	Hydrazide	Activated Carbon.
Difenzoquat methyl sulfate		106401	Hydrazide	Activated Carbon.
utralin		106501	Benzeneamine	Activated Carbon.
osamine ammonium		106701	Carbamate	Activated Carbon.
sulam		106901	Carbamate	Activated Carbon.
odium asulam			Carbamate	
		106902		Activated Carbon.
ydroxymethoxymethyl-1-aza-		107001	Bicyclic	Activated Carbon.
3,7-dioxabicyclo(3.3.0)octane. lydroxymethyl-1-aza-3,7-		107002	Bicyclic	Activated Carbon.
dioxabicyclo(3.3.0)octane. Hydroxypoly(methyleneoxy)*		107003	Bicyclic	Activated Carbon.
methyl-1-aza-3,7- dioxabicyclo(3.3).				
Chloro-2-methyl-3(2H)- isothiazolone.		107103	Heterocyclic	Activated Carbon.
Methyl-3(2H)-isothiazolone		107104	Heterocyclic	Activated Carbon.
rimethoxysilyl)propyl dimethyl		107401	NR4	Activated Carbon.
octadecyl ammonium chloride.		407500	l <u>-</u> .	
(inoprene		107502	Ester	Activated Carbon.
riforine (ANSI)		107901	Hydrazide	Activated Carbon.
irimiphos-methyl (ANSI)		108102	Phosphorothioate	Activated Carbon.
hiobencarb		108401	Thiocarbamate	Activated Carbon.
ncymidol (ANSI)		108601	Pyrimidine	Activated Carbon.
exadiazon (ANSI)		109001	Hydrazide	Activated Carbon.
lepiquat chloride		109101	NR4	Activated Carbon.
luvalinate		109302	Toluamide	Activated Carbon.
chloro-N-		109501	Acetamide	Activated Carbon.
(hydroxymethyl)acetamide.				
ikegulac sodium		109601	Tricyclic	Activated Carbon.
prodione (ANSI)		109801	Hydrazide	Activated Carbon.
henylmethyl)-9-(tetrahydro-2H- pyran-2-yl)-9H-purin-6-amine.		110001	Pyrimidine	Activated Carbon.
Prodiamine		110001	Benzeneamine	Activated Carbon
		110201		Activated Carbon.
rioglaucine		110301	Benzeneamine	Activated Carbon.
artrazine		110302	Hydrazide	Activated Carbon.
odemorph acetate		110401	Heterocyclic	Activated Carbon.
thofumesate (ANSI)		110601	Bicyclic	Activated Carbon.
Idoxycarb (ANSI)		110801	Carbamate	Activated Carbon.
			Aryl Halide	
Diclofop-methyl		110902		Activated Carbon.
propanediCarbon.itrile.		111001	Isocyanate	Activated Carbon.
Poly (imino imidocarbonyli minoimidocarbony		111801	Polymer	Activated Carbon.
liminohexameth ylene).			l	l .
nazalil		111901	Aryl Halide	Activated Carbon.
romadiolone		112001	Coumarin	Activated Carbon.
rodifacoum		112701	Coumarin	Activated Carbon.
romethalin (ANSI)		112802	Aryl Amine	Activated Carbon.
				Activated Carbon.
luridone (ANSI)		112900	Aryl Halide	
inclozolin		113201	Aryl Halide	Activated Carbon.
		113501	Benzeneamine	Activated Carbon.
ropetamphos (ANSI)		113601	Phosphoroamidothioate	Activated Carbon.
lethyl-1-naphthyl)maleimide		113701	Phthalamide	Activated Carbon.
lexadecadien-1-yl acetate			Ester	Activated Carbon.
		114101		
		114102	Ester	Activated Carbon.
		114301	Heterocyclic	Activated Carbon.
		114301		
poxy-2-methyloctadecane				
Hexadecadien-1-yl acetate poxy-2-methyloctadecane Thiodicarb (ANSI)		114501 114501 114801	ThiocarbamateHeterocyclic	Activated Carbon. Activated Carbon.

LIST OF APPROPRIATE POLLUTION CONTROL TECHNOLOGIES 1—Continued

PAI name ²	PAI code ³	Shaughnessy code 4	Structural group 5	Treatment technology
Hydroxyphenyl) oxoace tohydroximic chloride.		114901	Phenol	Activated Carbon.
EEEBC		115001	Carbamate	Activated Carbon.
MDM Hydantoin		115501	Hydrazide	Activated Carbon.
DMDM Hydantoin		115502	Hydrazide	Activated Carbon.
Triclopyr (ANSI)		116001	Pyridine	Activated Carbon.
Friethylamine triclopyr		116002	Pyridine	Activated Carbon.
Butoxyethyl triclopyr		116004	Pyridine	Activated Carbon.
Decenyl)dihydro-2(3H)-furanone		116501	Ester	Activated Carbon.
Cytokinins		116801	Toluidine	Activated Carbon.
Benzyladenine		116901	Pyrimidine	Activated Carbon.
Clopyralid, monoethanolamine salt.		117401	Pyridine	Activated Carbon.
Clopyralid (ANSI)		117403	Pyridine	Activated Carbon.
Flucythrinate (ANSI)		118301	Pyrethrin	Activated Carbon.
Hydramethylnon (ANSI)		118401	Iminimide	Activated Carbon.
Chlorsulfuron		118601	s-Triazine	Activated Carbon.
Dimethipin		118901	Heterocyclic	Activated Carbon.
Hexadecenal		120001	Miscellaneous Organic	Activated Carbon.
Tetradecenal		120002	Miscellaneous Organic	Activated Carbon.
Thidiazuron		120301	Urea	Activated Carbon.
Metronidazole		120401	Hydrazide	Activated Carbon.
Erythrosine B		120901	Tricyclic	Activated Carbon.
Sethoxydim		121001	Cyclic Ketone	Activated Carbon.
Clethodim		121011	Heterocyclic	Activated Carbon.
Ovromazine		121301	s-Triazine	Activated Carbon.
Fralomethrin		121501	Pyrethrin	Activated Carbon.
Azadirachtin		121701		Activated Carbon.
			Tricyclic	
Fridecen-1-yl acetate		121901	Ester	Activated Carbon.
Tridecen-1-yl acetate		121902	Ester	Activated Carbon.
Sulfometuron methyl		122001	Pyrimidine	Activated Carbon.
Metsulfuron-methyl		122010	s-Triazine	Activated Carbon.
Propiconazole		122101	Aryl Halide	Activated Carbon.
uranone, dihydro-5-pentyl	ll	122301	Cyclic Ketone	Activated Carbon.
Furanone, 5-heptyldihydro		122302	Cyclic Ketone	Activated Carbon.
Abamectin (ANSI)		122804	Tricyclic	Activated Carbon.
				Activated Carbon.
Fluazifop-butyl		122805	Pyridine	
Fluazifop-R-butyl		122809	Pyridine	Activated Carbon.
Flumetralin		123001	Nitrobenzoate	Activated Carbon.
Fosetyl-Al		123301	Phosphate	Activated Carbon.
Methanol, (((2-(dihydro-5-meth- yl-3(2H)-oxazolyl)-1-methyl)et.		123702	Heterocyclic	Activated Carbon.
Fomesafen		123802	Nitrobenzoate	Activated Carbon.
Tridiphane		123901	Aryl Halide	Activated Carbon.
POE isooctadecanol		124601	Alcohol	Activated Carbon.
		124801		Activated Carbon.
Periplanone B			Bicyclic	
Fenoxycarb		125301	Carbamate	Activated Carbon.
Clomazone		125401	Aryl Halide	Activated Carbon.
Clofentezine		125501	Aryl Halide	Activated Carbon.
Paclobutrazol		125601	Hydrazide	Activated Carbon.
-lurprimidol		125701	Pyrimidine	Activated Carbon.
soxaben		125851	Heterocyclic	Activated Carbon.
sazofos		126901	Phosphorothioate	Activated Carbon.
Friadimenol		127201	Hydrazide	Activated Carbon.
enpropathrin		127901	Pyrethrin	Activated Carbon.
Sulfosate				
		128501	Phosphorothioate	Activated Carbon.
enoxaprop-ethyl		128701	Heterocyclic	Activated Carbon.
Quizalofop-ethyl		128711	Phthalimide	Activated Carbon.
Bensulfuron-methyl		128820	Pyrimidine	Activated Carbon.
mazapyr		128821	Hydrazide	Activated Carbon.
Bifenthrin		128825	Pyrethrin	Activated Carbon.
mazapyr, isopropylamine salt		128829	Hydrazide	Activated Carbon.
Sodium salt of 1-		128832	s-Triazine	Activated Carbon.
carboxymethyl-3,5,7-triaza-1-				
azoniatricyclo.			1	1
Linalool		128838	Alcohol	Activated Carbon.
mazaquin, monoammonium salt.		128840	Pyrimidine	Activated Carbon.
		100040	Pyrimidina	Activated Carbon
mazethabenz		128842	Pyrimidine	Activated Carbon.
Thifensulfuron methyl mazaquin		128845	s-Triazine	Activated Carbon.
	l l	128848	Pyrimidine	Activated Carbon.

Environmental Protection Agency

LIST OF APPROPRIATE POLLUTION CONTROL TECHNOLOGIES 1—Continued

PAI name ²	PAI code ³	Shaughnessy code 4	Structural group ⁵	Treatment technology
Myclobutanil (ANSI)		128857	s-Triazine	Activated Carbon.
Zinc borate (3ZnO, 2B03,		128859	Metallic	Precipitation.
3.5H2O; mw 434.66).				
Cyhalothrin		128867	Pyrethrin	Activated Carbon.
Potassium cresylate		128870	Phenol	Activated Carbon.
Friflumizole		128879	Toluidine	Activated Carbon.
ribenuron methyl		128887	s-Triazine	Activated Carbon.
Cyhalothrin		128897	Pyrethrin	Activated Carbon.
Chlorimuron-ethyl		128901	Pyrimidine	Activated Carbon.
Oodecen-1-yl acetate		128906	Ester	Activated Carbon.
Oodecen-1-yl acetate		128907	Ester	Activated Carbon.
DDOL		128908	Alcohol	Activated Carbon.
arnesol		128910	Alcohol	Activated Carbon.
Verolidol		128911	Alcohol	Activated Carbon.
efluthrin		128912	Pyrethrin	Activated Carbon.
Bromoxynil heptanoate		128920	Chloropropionanilide	Activated Carbon.
				Activated Carbon.
mazethapyr		128922	Pyrimidine	
mazethapyr, ammonium salt		128923	Pyrimidine	Activated Carbon.
Chitosan		128930	Polymer	Activated Carbon.
Sulfuric acid, monourea adduct		128961	Urea	Activated Carbon.
lydroprene		128966	Miscellaneous Organic	Activated Carbon.
riasulfuron		128969	Urea	Activated Carbon.
Primisulfuron-methyl		128973	Urea	Activated Carbon.
Jniconazole (ANSI)		128976	s-Triazine	Activated Carbon.
etradecenyl acetate		128980	Miscellaneous Organic	Activated Carbon.
Chitin		128991	Polymer	Activated Carbon.
Sulfluramid		128992	Sulfonamide	Activated Carbon.
Dithiopyr (ANSI)		128994	Pyridine	Activated Carbon.
licosulfuron		129008	Pyrimidine	Activated Carbon.
line		129015	Metallic	Precipitation.
etradecen-1-ol, acetate, (E)		129019	Alkyl Acid	Activated Carbon.
			Pyrimidine	
mazaquin, sodium salt		129023		Activated Carbon.
Oodecadien-1-ol		129028	Alcohol	Activated Carbon.
onone		129030	Miscellaneous Organic	Activated Carbon.
Dicamba, aluminum salt		129042	Aryl Halide	Activated Carbon.
Benzenemethanaminium, N-(2- ((2,6-dimethylphenyl)amino)-		129045	NR4	Activated Carbon.
2-oxo.				
enoxaprop-p-Ethyl		129092	Tricyclic	Activated Carbon.
Alkyl* bis(2-hydroxyethyl) am-		169103	NR4	Activated Carbon.
monium acetate *(as in fatty				
ac.				
Alkenyl* dimethyl ammonium acetate *(75% C18', 25%		169104	NR4	Activated Carbon.
C16'). Amines, N-coco		169109	Iminamide	Activated Carbon.
alkyltrimethylenedi-, adipates.			l	1
Dialkyl* dimethyl ammonium		169111	NR4	Activated Carbon.
bentonite *(as in fatty acids of.				
Alkyl* bis(2-hydroxyethyl) amine		169125	Acetamide	Activated Carbon.
acetate *(65% C18, 30%				
C16,.				
Dodecyl bis(hydroxy ethyl)		169154	NR4	Activated Carbon.
dioctyl ammonium phosphate.				
Oodecyl bis(2-hydroxyethyl)		169155	NR4	Activated Carbon.
octyl hydrogen ammonium		.55.56		
phosphat.				
Didecyl - N - methyl - 3 -		169160	NR4	Activated Carbon.
		109100	INIT	Activated Carbott.
(trimethoxysilyl)				
propanaminium chloride.			B:	A - thurst - d O - d
		202901	Bicyclic	Activated Carbon.
		208700	Bicyclic	Activated Carbon.
				A ativista d. Caulana
Jse code no. 202901 (Vitamin D3).		210900	NR4	Activated Carbon.
Jse code no. 202901 (Vitamin D3). klkyl* N,N-bis(2-hydroxy-		210900	NR4	Activated Carbon.
Jse code no. 202901 (Vitamin D3). klkyl* N,N-bis(2-hydroxy-ethyl)amine *(100% C8–C18).				
Jse code no. 202901 (Vitamin D3). Jikyl* N,N-bis(2-hydroxy-ethyl)amine *(100% C8–C18). Bromo-2-nitropropane-1,3-diol		216400	Alcohol	Activated Carbon.
lse code no. 202901 (Vitamin D3). Jlkyl* N,N-bis(2-hydroxy- ethyl)amine *(100% C8–C18). iromo-2-nitropropane-1,3-diol lse code no. 114601				
Jse code no. 202901 (Vitamin D3). N,N-bis(2-hydroxy-ethyl)amine *(100% C8-C18). stromo-2-nitropropane-1,3-diol Jse code no. 114601 (cyclohexyl-4, 5-dichloro-4-		216400	Alcohol	Activated Carbon.
Jse code no. 202901 (Vitamin D3). Jse code no. 202901 (Vitamin D3). Jse code no. 114601 (cyclohexyl-4, 5-dichloro-4-isothioazolin-3-one).		216400 229300	Alcohol	Activated Carbon. Activated Carbon.
Alkyl [*] N,N-bis(2-hydroxy- ethyl)amine *(100% C8–C18). 3romo-2-nitropropane-1,3-diol Jse code no. 114601 (cyclohexyl-4, 5-dichloro- 4-		216400 229300 279500	Alcohol	Activated Carbon. Activated Carbon. Activated Carbon.

LIST OF APPROPRIATE POLLUTION CONTROL TECHNOLOGIES 1—Continued

PAI name ²	PAI code 3	Shaughnessy code 4	Structural group ⁵	Treatment technology
Zinc sulfate monohydrate Geraniol			Metallic	Precipitation Activated Carbon.

- ¹The 272 Pesticide Active Ingredients (PAIs) are listed first, by PAI code, followed by the non-272 PAIs from the 1988 FIFRA and TSCA Enforcement System (FATES) Database, which are listed in Shaughnessy code order. PAIs that were exempted or reserved from the PFPR effluent guidelines are not listed in the table.

 ²The non-272 PAI names are taken directly from the 1988 FATES database. Several of the PAI names are truncated because the PAI names listed in the FATES database are limited to 60 characters.

 ³The non-272 PAIs do not have PAI codes.

The non-272 PAIs do not have PAI codes.

4All Shaughnessy codes are taken from the 1988 FATES database. Some of the 272 PAIs are not listed in the 1988 FATES database; therefore, no Shaughnessy codes are listed for these PAIs.

Structural groups are based on an analysis of the chemical structures of each PAI.

EPA has also received data indicating that acid hydrolysis may also be effective in treating this PAI.

This PAI code represents a category or group of PAIs; therefore, it has multiple Shaughnessy codes.

[61 FR 57554, Nov. 6, 1996]

PART 457—EXPLOSIVES MANUFAC-TURING POINT SOURCE CAT-**EGORY**

Subpart A—Manufacture of Explosives Subcategory

- 457.10 Applicability; description of the commercial manufacture of explosives subcategory.
- 457.11 Specialized definitions.
- 457.12 Effluent limitations and guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Subpart B [Reserved]

Subpart C—Explosives Load, Assemble, and Pack Plants Subcategory

- 457.30 Applicability; description of the commercial explosives load, assemble and pack plants subcategory.
- 457.31 Specialized definitions.
- 457.32 Effluent limitations and guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

AUTHORITY: Secs. 301, 304(b) and (c), 306(b), 307(b) and (c), Federal Water Pollution Control Acts, as amended (33 U.S.C. 1251, 1311, 1314(b) and (c), 1316(b) and 1317(b) and (c), 86 Stat. 816 et seq.; Pub. L. 92-500) (the Act).

SOURCE: 41 FR 10184, Mar. 9, 1976, unless otherwise noted.

Subpart A—Manufacture of **Explosives Subcategory**

§457.10 Applicability; description of the commercial manufacture of explosives subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of explosives.

§457.11 Specialized definitions.

For the purpose of this subpart:

- (a) Except as provided below, the gendefinitions, abbreviations and methods of analysis set forth in 40 CFR part 401 shall apply to this subpart.
- (b) The term "product" shall mean dynamite, nitroglycerin, cyclotrimethylene trinitramine (RDX), cyclotetramethylene tetranitramine (HMX), and trinitrotoluene (TNT).

§ 457.12 Effluent limitations and guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

 $\begin{array}{cccc} \text{Except} & \text{as} & \text{provided} & \text{in} & \$\$\,125.30 \\ \text{through} & 125.32, & \text{any} & \text{existing} & \text{point} \end{array}$ source subject to this subpart, shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this paragraph, which may be discharged from the manufacture of explosives by a point source subject to